University of Toronto

# School of Graduate Studies 2002/2003 Calendar

**Graduate Programs:**
For admission and application information, contact the graduate unit directly. Contact information and Web site addresses are listed in each unit's entry.

**World Wide Web:**
www.sgs.utoronto.ca

**Student Services at SGS:**
Telephone: (416) 978-6614
Fax: (416) 978-4367
E-mail:
graduate.information@utoronto.ca
graduate.awards@utoronto.ca

**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; assists graduate units in their efforts to provide career opportunities for graduates; 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. Finally, SGS is involved directly in the oversight of teaching and research as well as having operational responsibility for interdisciplinary and interdivisional centres and institutes.

# Dean's Welcome

I am delighted to welcome you to the graduate community at the University of Toronto - an extraordinary collection of scholars by any measure, we believe. At the School of Graduate Studies, my colleagues and I are proud of our accomplishments as a major centre for advanced research and graduate training. We have approximately 3,900 graduate faculty and over 10,000 full and part-time graduate students. Our size permits us to provide students with a range of program choice and diversity of activities unmatched by smaller institutions. As well, we believe we are able to achieve the benefits of size without sacrificing the qualities of community. Our faculty are actively engaged in research and many receive international recognition for their contributions. Graduate initiatives range from major research projects in the humanities to our internationally renowned research centres and institutes.

Our graduate programs and our first-class research facilities attract students from across North America and around the world. Overall, the close association of research and graduate training is the hallmark of our enterprise and the ideal preparation for our students to participate fully in the dynamic world of new ideas and technologies.

This calendar presents information about graduate programs at the University of Toronto. More information is available on our Web site at www.sgs.utoronto.ca or directly from the graduate unit in which you are interested.

Best wishes for academic success.

Michael R. Marrus
Dean
School of Graduate Studies

# About this Calendar

The *School of Graduate Studies Calendar* is published annually in July. A subset of its material is contained in a slimmer volume known as the *School of Graduate Studies Handbook,* which is distributed to registered students.

The complete calendar is posted on the SGS Web site at www.sgs.utoronto.ca. Printed copies of the calendar 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.

**CALENDAR**

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 eight sections. The term "graduate unit" refers to a department, centre, or institute.

Section 1
**General Regulations** outlines admission, registration, enrolment, grading, and graduation policies and procedures. Selected codes and policies established by the University are also featured in this section.

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** schedules, types of fees, and fees for graduate student categories are explained.

Section 4
**Financial Support and Exchange Programs** describes awards, fellowships, and bursaries available to graduate students. They are organized by granting category. The section concludes with a list of student exchange programs.

Section 5
**General Information** outlines University services available to enhance graduate life at U of T. Look for student housing information in this section.

Section 6
**Course Codes**, established by the graduate units to identify their courses, are listed in this section. Joint course designators beginning with the letter "J" identify courses shared by two or more units.

Section 7
**Graduate Faculty** with appointments as full members and members emeriti are listed alphabetically, together with their home unit affiliation. Associate members are listed in the individual departmental entries in section 8.

Section 8
**Graduate Programs**. The largest component of the calendar features a comprehensive list of programs offered by the University's graduate units. Each entry contains valuable information about admission and program requirements as well as courses of instruction. Faculty appointed to the graduate unit are listed by category. For additional details about a graduate program, visit the unit's Web site and/or consult the department's handbook.

**HANDBOOK**

The *School of Graduate Studies Handbook* is published annually for distribution to registered graduate students. The Handbook is a subset of the *School of Graduate Studies Calendar* and contains the complete contents of the calendar *except* for Section 8, Graduate Programs.

Students can access Section 8 on the SGS Web site at www.sgs.utoronto.ca where the complete calendar is posted. Each program entry contains a direct link to the graduate unit's Web site where more details are available. Some departments publish graduate handbooks which are another source of valuable information.

# Important Notices

**Changes in programs of study and/or courses**

The *2002/2003 School of Graduate Studies Calendar* is effective for the academic period September 1, 2002 to August 31, 2003. References in the calendar to *current academic year* refer to this period.

The programs of study described by the calendar are available for the years to which the calendar applies. 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 reasonably 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, the courses necessary to complete the minimum requirements of the program will be made available annually. However, we 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**

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 the student has done so. The rules and regulations of the School are displayed here. Applicable University policies are either fully or partially displayed here or listed here.

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 here, as amended from time to time.

**Enrolment limitations**

The University makes every reasonable effort to plan and control enrolment to ensure that all students are qualified to complete the programs to which they are admitted, and to strike a practicable balance between enrolment and available instructional resources. Sometimes such a balance cannot be struck and the number of qualified students exceeds the instructional resources that can reasonably be made available while at the same time maintaining the quality of instruction. In such cases, the University reserves 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. Notice and alternative instruction will be given. The University will not be liable for any loss, damages, or other expenses that such limitations or withdrawals might cause.

**Copyright in instructional settings**

A student wishing to tape-record, photograph, video-record or otherwise reproduce lecture presentations, course notes or similar materials provided by instructors 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 I.D. (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 I.D. numbers. The University assumes and expects that students will protect the confidentiality of their Person I.D. number.

**Fees**

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

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(CP) Collaborative Program

# Academic Calendar 2002/2003

**2002**

| | | | |
|---|---|---|---|
| M | August | 5 | Civic Holiday |
| T | August | 6 | Registration for September session begins |
| S | August | 31 | Recommended date for payment of tuition fees |
| M | September | 2 | Labour Day |
| M | September | 9 | Most formal graduate courses and seminars begin in the week of September 9 (1) |
| F | September | 13 | Registration for September session ends; after this date, a late registration fee will be assessed |
| M | September | 16 | Final date to submit Ph.D. theses to avoid fee charges |
| F | September | 20 | Course work must be completed and grades submitted for summer session courses and extended courses( 2) |
| F | October | 4 | Final date for receipt of degree recommendations and submission of any required theses for master's degrees for Fall Convocation (3) |
| F | October | 4 | Final date to submit final Ph.D. thesis for Fall Convocation |
| F | October | 4 | Final date to add full-year and September session courses (4) |
| M | October | 14 | Thanksgiving |
| F | November | 1 | Final date to drop September session full or half-courses without academic penalty |
| M | November | TBA | Fall Convocation: See Web site: www.library.utoronto.ca/convocation/fall |
| T | November | TBA | Fall Convocation: See Web site: www.library.utoronto.ca/convocation/fall |
| | December | | For last day of classes before Winter break, consult graduate units concerned |

**2003**

| | | | |
|---|---|---|---|
| | January | | For first day of classes in the New Year, consult graduate units concerned (1) |
| F | January | 10 | Final date for registration of students beginning program in January session; after this date, a late registration fee will be assessed |
| W | January | 15 | Final date to submit Ph.D. theses without fee payment for January session |
| F | January | 17 | Course work must be completed and grades submitted for September session courses (2) |
| F | January | 24 | Final date to add January session only courses (4) |
| Th | 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) |
| Th | January | 30 | Final date for all students to request that their degrees be conferred *in absentia* in March |
| Th | January | 30 | September dual registrants must be recommended for the master's degree by this date to maintain their Ph.D. registration (3) |

[Faculty of Arts and Science Reading Week = February 17-21]

| | | | |
|---|---|---|---|
| F | Feb | 28 | Final date to drop full-year or January session courses without academic penalty [4] |
| | March | TBA | March Graduation *in absentia* |
| F | April | 18 | Good Friday |
| F | April | 25 | For students obtaining degrees at June Convocation, course work must be completed and grades submitted for full-year and January session courses |
| F | April | 25 | Final date for receipt of degree recommendations and submission of any required theses for master's degrees for June Convocation[3] |
| F | April | 25 | Final date for submission of final Ph.D. thesis for students whose degrees are to be conferred at the June Convocation |
| F | April | 25 | Final date for degree recommendations of January dual registrants for the master's degree to maintain their Ph.D. registration [3] |
| F | May | 9 | Final date for registration for May session |
| F | May | 16 | Course work must be completed and grades submitted for full-year and January session courses (except for extended courses) [2] |
| F | May | 16 | Final date to enrol in May-June or May-August session courses |
| M | May | 19 | Victoria Day |
| | June | TBA | Spring Convocation: See Web site: www.library.utoronto.ca/convocation/spring |
| | June | TBA | Spring Convocation: See Web site: www.library.utoronto.ca/convocation/spring |
| F | June | 6 | Final date to drop May/June F section courses without academic penalty |
| T | July | 1 | Canada Day |
| F | July | 4 | Final date for registration for July-August courses |
| F | July | 4 | Final date to drop May-August session Y section courses without academic penalty |
| F | July | 25 | Final date to drop July-August S section courses without academic penalty |
| F | July | 25 | Course work must be completed and grades submitted for May/June F Section Courses [2] |

(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 Friday, September 6 to about 1 1/2 hours after sunset on Sunday, September 8) or on Yom Kippur (from about 1 1/2 hours before sunset on Sunday, September 15 to about 1 1/2 hours after sunset on Monday, September 16).

(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. Course changes for part-time special students require an earlier deadline; please contact your graduate unit or the Student Services Office at the School of Graduate Studies.

# Officers

## OFFICERS OF THE UNIVERSITY

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**University Registrar**
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**Associate Dean, Division II - The Social Sciences**
S. K. Howson, BA, MA, MSc, PhD

**Associate Dean, Division III - The Physical Sciences**
R. C. Desai, BSc, PhD

**Associate Dean, Division IV - The Life Sciences**
U. De Boni, BSc, MSc, PhD

# Divisional Structure

The graduate units (departments, centres, institutes, and programs) are allocated into four divisions.

**Division I - The Humanities**

Ancient and Medieval Philosophy (CP)
Ancient Studies (CP)
Book History and Print Culture (CP)
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
History of Art
Italian Studies
Linguistics
Medieval Studies
Museum Studies
Music
Near and Middle Eastern Civilizations
Philosophy
Religion, Study of
Semiotics (CP)
Slavic Languages and Literatures
South Asian Studies
South Asian Studies (CP)
Spanish
Women's Studies (CP)

**Division II - The Social Sciences**

Adult Education, Community Development and Counselling Psychology
Anthropology
Architecture, Landscape, and Design
Asia-Pacific Studies (CP)
Comparative, International and Development Education (CP)
Criminology
Curriculum, Teaching and Learning
Economics
Ethnic and Pluralism Studies (CP)
Geography
Human Development and Applied Psychology
Industrial Relations
Information Studies
International Relations (CP)
International Studies
Law
Management
Management and Economics (CP)
Planning
Policy Analysis
Political Science
Russian and East European Studies
Social Work
Sociology
Sociology and Equity Studies in Education
Theory and Policy Studies in Education
Urban and Community Studies

(CP) Collaborative Program

**Division III - The Physical Sciences**

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

**Division IV - The Life Sciences**

Addiction Studies (CP)
Aging and the Life Course (CP)
Anatomy and Cell Biology
Biochemistry
Bioethics (CP)
Biomedical Communications
Biomolecular Structure (CP)
Biotechnology
Botany
Cardiovascular Sciences (CP)
Dentistry
Developmental Biology (CP)
Doctor of Medicine/Doctor of Philosophy
Exercise Sciences
Forestry
Health Policy, Management and Evaluation
Human Development, Life Course, and Aging
Immunology
Laboratory Medicine and Pathobiology
Medical Biophysics
Medical Sciences
Molecular and Medical Genetics
Neuroscience (CP)
Nursing Science
Nutritional Sciences
Occupational Therapy
Pharmaceutical Sciences
Pharmacology
Physical Therapy
Physiology
Psychology
Public Health Sciences
Rehabilitation Science
Speech-Language Pathology
Toxicology (CP)
Zoology

(CP) Collaborative Program

# Degree Programs

| | | |
|---|---|---|
| Addiction Studies (CP) | M.A.<br>M.I.St.<br>M.Sc.<br>M.S.W. | Ph.D. |
| Adult Education, Community Development and Counselling Psychology | M.A.+<br>M.Ed.+ | Ed.D.^<br>Ph.D. |
| Aerospace Science and Engineering | M.A.Sc.<br>M.Eng.+ | Ph.D. |
| Aging and the Life Course (CP) | M.A.<br>M.H.Sc.<br>M.I.St.<br>M.Sc.<br>M.S.W. | Ph.D |
| Ancient and Medieval Philosophy (CP) | | Ph.D. |
| Ancient Studies (CP) | M.A. | Ph.D. |
| Anthropology | M.A.+<br>M.Sc.+ | Ph.D. |
| Architecture, Landscape, and Design | M.Arch.<br>M.L.A.<br>M.U.D. | |
| Asia-Pacific Studies (CP) | M.A. | |
| Astronomy and Astrophysics | M.Sc.+ | Ph.D. |
| Astrophysics (CP) | M.Sc. | |
| Biochemistry | M.Sc. | Ph.D. |
| Bioethics (CP) | LL.M.<br>M.A.<br>M.H.Sc.<br>M.Sc. | Ph.D.<br>S.J.D. |
| Biomedical Communications | M.Sc.BMC | |
| Biomedical Engineering | M.A.Sc.<br>M.Sc. | Ph.D. |
| Biomolecular Structure (CP) | | Ph.D. |
| Biotechnology | M.Biotech. | |
| Book History and Print Culture (CP) | M.A. | Ph.D. |
| Botany | M.Sc. | Ph.D. |
| Cardiovascular Sciences (CP) | M.Sc. | Ph.D. |
| Chemical Engineering and Applied Chemistry | M.A.Sc.<br>M.Eng.+ | Ph.D. |
| Chemistry | M.Sc. | Ph.D. |
| Civil Engineering | M.A.Sc.<br>M.Eng.+ | Ph.D.<br>Ph.D.[1] |
| Classics | M.A.+ | Ph.D. |
| Clinical Biomedical Engineering | M.H.Sc. | |
| Comparative Literature | M.A.+ | Ph.D. |
| Computer Science | M.Sc.+ | Ph.D. |
| Criminology | J.D./M.A.<br>M.A.+ | Ph.D. |
| Curriculum, Teaching and Learning | M.A.+<br>M.A.(T)+<br>M.Ed.+<br>M.T. | Ed.D.^<br>Ph.D. |
| Dentistry | M.Sc.+ | Ph.D.<br>Ph.D.[1] |
| Design and Manufacturing , Advanced | M.Eng.D.M. | |
| Developmental Biology (CP) | | Ph.D. |
| Doctor of Medicine/ Doctor of Philosophy | | M.D./Ph.D. |
| Drama | M.A.+ | Ph.D. |
| East Asian Studies | M.A.+ | Ph.D. |
| Economics | J.D./M.A.<br>M.A.+ | J.D./Ph.D.<br>Ph.D. |
| Electrical and Computer Engineering | M.A.Sc.<br>M.Eng.+<br>M.Eng.Tel.+ | Ph.D. |
| English | M.A.+ | Ph.D. |
| Environment and Health (CP) | M.A.<br>M.H.Sc.<br>M.Sc.<br>M.Sc.BMC | Ph.D. |
| Environmental Engineering (CP) | M.A.Sc.<br>M.Eng.+ | Ph.D. |
| Environmental Studies (CP) | M.A.+<br>M.Sc.+<br>M.Sc.F. | Ph.D. |
| Ethnic and Pluralism Studies (CP) | M.A.<br>M.N.<br>M.Sc.<br>M.S.W. | Ph.D. |
| Exercise Sciences | M.Sc.+ | Ph.D.<br>Ph.D.[1] |
| Forestry | M.F.C.<br>M.Sc.F. | Ph.D. |
| French Language and Literature | M.A.+ | Ph.D. |
| Geography | M.A.+<br>M.Sc.+<br>M.S.A.+ | Ph.D. |
| Geology | M.A.Sc.<br>M.Sc.+ | Ph.D. |
| Germanic Languages and Literatures | M.A.+ | Ph.D. |
| Health Policy, Management and Evaluation | M.H.Sc.<br>M.Sc.<br>M.H.Sc./M.S.W. | Ph.D.<br>Ph.D.[1] |
| History | M.A.+ | Ph.D. |
| History and Philosophy of Science and Technology | M.A.+ | Ph.D. |
| History of Art | M.A.+ | Ph.D. |
| Human Development and Applied Psychology | M.A.<br>M.Ed.+<br>M.T. | Ed.D.^<br>Ph.D. |

| | | |
|---|---|---|
| Immunology | M.Sc. | Ph.D. |
| Industrial Relations | M.I.R.+ | Ph.D. |
| Information Studies | M.I.St.+ | Ph.D.<br>Ph.D.[1] |
| Integrated Manufacturing (CP) | M.Eng.+ | |
| International Relations (CP) | M.A.<br>M.Sc.<br>J.D./M.A. | |
| Italian Studies | M.A.+ | Ph.D. |
| Laboratory Medicine and Pathobiology | M.Sc. | Ph.D. |
| Law | LL.M.<br>M.S.L. | S.J.D. |
| Linguistics | M.A.+ | Ph.D. |
| Management | J.D./M.B.A.<br>B.A.Sc./M.B.A.<br>M.B.A.+<br>M.M.P.A. | Ph.D. |
| Management and Economics (CP) | | Ph.D. |
| Materials Science and Engineering | M.A.Sc.<br>M.Eng.+ | Ph.D. |
| Mathematical Finance | M.M.F. | |
| Mathematics | M.Sc + | Ph.D. |
| Mechanical and Industrial Engineering | M.A.Sc.<br>M.Eng.+ | Ph.D. |
| Medical Biophysics | M.Sc. | Ph.D. |
| Medical Science | M.Sc. | Ph.D. |
| Medieval Studies | M.A.+ | Ph.D. |
| Molecular and Medical Genetics | M.Sc. | Ph.D. |
| Museum Studies | M.M.St. | |
| Music | M.A.+<br>Mus.M. | Mus.Doc.<br>Ph.D. |
| Near and Middle Eastern Civilizations | M.A.+ | Ph.D. |
| Neuroscience (CP) | M.Sc. | Ph.D. |
| Nursing Science | M.N.<br>M.N./M.B.A.<br>M.Sc.+ | Ph.D.<br>Ph.D.[1] |
| Nutritional Sciences | M.Sc.+ | Ph.D. |
| Occupational Therapy | M.Sc.OT | |
| Pharmaceutical Sciences | M.Sc.+ | Ph.D. |
| Pharmacology | M.Sc.+ | Ph.D. |
| Philosophy | M.A.+ | J.D./Ph.D.<br>Ph.D. |
| Physical Therapy | M.Sc.PT | |
| Physics | M.Sc. | Ph.D. |
| Physiology | M.Sc. | Ph.D. |
| Planning | M.Sc.Pl.+<br>M.U.D.S. | |
| Political Science | J.D./M.A.<br>M.A.+ | Ph.D. |
| Psychology | M.A. | Ph.D. |
| Public Health Sciences | M.H.Sc.+<br>M.Sc.+ | Ph.D.<br>Ph.D.[1] |
| Rehabilitation Science | M.Sc. | |
| Religion | M.A.+ | Ph.D. |
| Russian and East European Studies | J.D./M.A.<br>M.A.<br>M.B.A./M.A. | |
| Semiotics (CP) | M.A. | |
| Slavic Languages and Literatures | M.A.+ | Ph.D. |
| Social Work | J.D./M.S.W.<br>M.H.Sc./M.S.W.<br>M.S.W.+ | Ph.D. |
| Sociology | M.A.+ | Ph.D. |
| Sociology and Equity Studies in Education | M.A.+<br>M.Ed.+ | Ph.D.<br>Ed.D.^ |
| Software Engineering (CP) | M.Eng.<br>M.Sc. | |
| South Asian Studies | M.A.+ | |
| South Asian Studies (CP) | M.A. | Ph.D. |
| Spanish | M.A.+ | Ph.D. |
| Speech-Language Pathology | M.H.Sc.+<br>M.Sc. | Ph.D. |
| Statistics | M.Sc.+ | Ph.D. |
| Theory and Policy Studies in Education | M.A.+<br>M.Ed.+ | Ph.D.<br>Ed.D.^ |
| Toxicology (CP) | M.A.+<br>M.A.Sc.<br>M.Sc.+<br>M.Sc.F. | Ph.D. |
| Women's Studies (CP) | LL.M<br>M.A.<br>M.Ed.<br>M.H.Sc.<br>M.Sc.<br>M.S.W. | Ed.D.^<br>Ph.D<br>S.J.D. |
| Wood Products Engineering (CP) | M.A.Sc.<br>M.Sc.F. | |
| Zoology | M.Sc. | Ph.D. |

(CP) Collaborative Programs are offered by two or more graduate units using the teaching and facilities of the collaborating units. The student must be admitted to, and enrol in, one of the collaborating units, but may design his/her program from courses and research offered in the collaborating units.

+Part-time studies program is available. Consult the graduate unit for details.

^ All Ed.D. programs have a full-time component. Consult the graduate unit for details.

[1]Flexible delivery. This model appeals to candidates who are able to combine work experience with graduate training.

# 1

# General Regulations

In this section:

**Introduction**
**Organization of the School of Graduate Studies**
**Student Categories**
**Admissions Standards and Procedures**
**Application for Admission to a Degree Program**
**Structure of Academic Programs**
**Registration Policies and Procedures**
**Enrolment Policies and Procedures**
**Good Academic Standing And Satisfactory Academic Progress**
**University Grading Practices Policy**
**Graduation and Submission of Thesis**
**Intellectual Property**
**Research Ethics**
**Policy on Academic Sanctions for Students Who Have Outstanding Obligations to the University**
**Code of Behaviour on Academic Matters**
**Code of Student Conduct**
**Policy on Access to Student Academic Records**
**Safety in Field Research**
**Statement on Human Rights**

**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 Graduate 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 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 145 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 to graduate studies preeminence in formal education.

## ORGANIZATION OF THE SCHOOL OF GRADUATE STUDIES

The School of Graduate Studies is responsible for all graduate studies 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. Until 2000, the School maintained the official records of the academic activities of all students registered in the School. Individual graduate units are now

responsible for maintenance of the official academic records of graduate students

By statute of the University of Toronto, 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 Council**

The Council is an academic advisory body reporting directly to the Governing Council of the University of Toronto. The Council consists of thirty-five elected and ten 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 new proposals in graduate studies. The Council is concerned with the quality of graduate education across the university as a whole.

**The Divisions**

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

Each division has:

1 ***An Associate Dean*.**
2 ***An Executive Committee*** (consisting of the chair or graduate coordinator of each graduate unit, the division's elected representatives on Council, and additional faculty members and students) primarily responsible for matters of policy. Each Executive Committee is chaired by the Associate Dean for that division.
3 ***A Nominating Committee*** consisting of the chairs/directors of the departments/centres/institutes from the division. The committee is chaired by the Dean.

The four divisions share an Admissions and Programs Committee, primarily responsible for the approval of non-standard admission and program cases. An Associate Dean acts as chair.

Further information on the role and function of Council and the Divisional Committees may be obtained from the Office of the Coordinator of SGS Policy, Program, and Liaison.

**Graduate Units**

Each graduate student is enrolled in one of the graduate departments/centres/institutes which offer graduate study. Although interdisciplinary studies within collaborative programs may be undertaken, a student must register in a single 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.

***Departments***

The graduate departments offer degree programs and courses and conduct research.

***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.

***Collaborative Programs***

The School of Graduate Studies currently offers about 30 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.

**Degree Programs**

Degree programs are listed alphabetically in Section 8 of the *SGS Calendar*. They are also described on the SGS Web site www.sgs.utoronto.ca.

**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: (1) associate member (2) full member (3) 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 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 Student and Special (Non-degree) Student.

**1 Degree Student**
A degree student is registered in a graduate degree program in the School of Graduate Studies and is considered as a *candidate* for the degree following first registration.

***Degree 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.

**2 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.

## ADMISSIONS 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 necessarily 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.

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.

**1 Academic Requirements for Admission**

***Master's Programs***
a. Except where otherwise stated in degree regulations, an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, is required.
b. 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.
c. At least two letters of reference are required.
d. Other qualifications as may be specified by a graduate unit.

***Doctor of Philosophy Programs***
a. An appropriate University of Toronto master's degree, or its equivalent from a recognized university, is required. Direct entry from a bachelor's degree to a Ph.D. program is also available when permitted by the graduate unit. See also Admission Requirements under Degree Regulations.
b. An average grade equivalent to a University of Toronto B+ or better in previous degrees. Where relevant, demonstrated research competence equivalent to at least a B+ grade will be considered.
c. At least two letters of reference are required.
d. Other qualifications as may be specified by a graduate unit.

***Other Doctoral Programs***
a. An appropriate University of Toronto master's degree, or its equivalent from a recognized university, is required. See also Admission Requirements under Degree Regulations.
b. 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.
c. At least two letters of reference are required.
d. 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 a degree 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***
Courses taken as a Special Student cannot be counted for credit in a subsequent degree program at this University; however, with approval of the graduate unit, they may serve to satisfy prerequisite requirements. *Special Student programs must include at least one graduate course.*

**2 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 requirement is a condition of admission and should be met before application, but must be met before registration. This requirement may be satisfied using one of the following tests. 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.

a. ***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
The TOEFL examination is offered in two formats: the traditional paper-based format (only offered on specific dates in a limited number of countries) and the computer-based format (offered year-round). Applicants in countries where the computer-based testing is not available must register for the

paper-based TOEFL which includes the Test of Written English (TWE) component. The computer-based test automatically includes an essay rating component which is similar to the TWE. All applicants must satisfy a minimum score requirement on the TOEFL and on the TWE or Essay Rating component to be considered for admission. The table below lists the minimum TOEFL score requirements set by each of the four SGS academic divisions.

| ACADEMIC DIVISION | Minimum Score Requirement - including TWE or Essay Rating Score Requirement* | |
|---|---|---|
| | Paper-Based Test and TWE | Computer-Based Test and Essay Rating Score |
| HUMANITIES | Overall score 580 TWE 5 | Overall score 237 Essay Rating 5 |
| SOCIAL SCIENCES | Overall score 580 TWE 5 | Overall score 237 Essay Rating 5 |
| PHYSICAL & ENGINEERING SCIENCES | Overall score 550 TWE 4 | Overall score 213 Essay Rating 4 |
| LIFE SCIENCES | Overall score 580 TWE 5 | Overall score 237 Essay Rating 5 |
| *Consult the department to which you are applying to determine if a higher minimum score is required | | |

b. ***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/melab2.htm
Required score: 85

c. ***International English Language Testing System (IELTS)***
University of Cambridge Local Examinations Syndicate
1 Hills Road
Cambridge, U.K.
CB12EU
*Web:* www.ielts.org
(applicants may also contact their nearest British Council Office)
Required score: 7.0

d. ***The Certificate of Proficiency in English (COPE)***
COPE Testing Limited
7B Pleasant Boulevard
P.O. Box 1164
Toronto, Ontario
M4T 1K2
*E-mail:* info@copetest.com
*Web:* www.copetest.com
Required score: 4 (with at least 1 in each component and 2 in the writing component)

e. ***English as Second Language for Advanced Study***
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
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 ADMISSION TO A DEGREE PROGRAM

**Procedures**

**1** Formal application for admission should be submitted on the standard forms available from the graduate units. Applicants not previously registered in the School of Graduate Studies at the University of Toronto must include an application fee of $90 (certified cheque or money order in Canadian funds made payable to the University of Toronto; payment by Master Card or Visa will also be accepted). No decision on the application will be sent to the student 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.

**3** Certified English translations of all foreign documentation written in 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. Most graduate units have earlier deadlines than those listed below and such dates will be included with the application material.***

Final deadlines for admission to degree programs and as a full-time Special Student (some graduate units may close admissions earlier if enrolment is full):

| | September Admission | January Admission |
|---|---|---|
| Applications from Canada and U.S.A. | June 1 | Oct. 1 |
| Applications from other countries | Apr. 15 | Sept. 1 |

Deadlines for admission as a part-time Special Student:

| | September Admission | January Admission |
|---|---|---|
| All applications | Aug. 1 | Nov. 1 |

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

Many graduate students require financial assistance to pursue their studies. The University of Toronto awards a large number of fellowships. Some of these are open to students in all graduate units. Others are restricted to students of one or more graduate units or to a division of the School. For Canadian students, fellowships are offered through the federal and provincial governments. For details, see Financial Support and Exchange Programs section.

### Acceptance

**1** Applications for admission are decided by the graduate unit. The official acceptance letter is issued by the School of Graduate Studies.

**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 and inform the School 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 academic fees but ***do*** pay Summer incidental 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 Section 2 for the Ph.D., M.A./M.Sc., M.A.Sc., M.Eng., and M.H.Sc. For other degrees, consult the relevant graduate unit listing in Section 8 Graduate Programs of the SGS 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. For part-time students, this period establishes the minimum degree fee they 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.

If an academic program requires an absence from the University, students must apply for permission to be off campus through their graduate unit.

**Part-time Studies**
From first registration, part-time studies are permitted in those master's degree programs offering a part-time program. See the list of Degree Programs in the front section of this publication.

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, M.Sc., and M.A.Sc. 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 candidacy 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 section.

**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 candidate 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 candidate 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.

**Lapsed Status**
If a candidate fails to register, or is not permitted to register because the time limit for the degree sought has elapsed, candidacy in the School lapses. There are two states of lapsed status, as noted below:

1 ***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 candidacy. Candidacy may only be re-established if an application for reinstatement is approved both by the graduate unit and the School, and payment is made of the prescribed fees for the year(s) in which the candidate failed to register.

2 ***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 student may not register further and degree candidacy is considered to have lapsed. However, in special circumstances, a student may be reinstated once only, for a maximum of 12 months. See index for reference to Time for Completion section in the Ph.D. 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 Ph.D. 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 Ph.D. studies and will be registered full-time in the Ph.D. and part-time in the master's program. Only the appropriate Ph.D. fees will be charged.
**4** The period of dual registration will be either September 1 to January 31 or January 1 to May 1.

In order to receive credit for the Ph.D. 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 Ph.D. registration will be cancelled, no credit for the Ph.D. will be allowed, and the student will continue to be registered as a master's candidate only. An appropriate fees adjustment will be made so that the student will be charged fees only as a master's student. Ph.D. 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 Ph.D. 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 Ph.D. program.

**Leave for Serious Health Problems or Personal Circumstances**
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 on the grounds of serious health or personal problems which temporarily make it impossible to continue in the program.

Once on leave, students will not be registered nor will they be required to pay fees for this period. They may not make demands upon the resources of the University, such as use library facilities, attend courses or expect advice from their supervisor. They will not be eligible to receive or defer University of Toronto fellowship support during the leave. In the case of other graduate student awards, the regulations of the particular granting agency apply.

Students requesting a leave on the basis of serious financial reasons will first be required to apply to the School for a bursary.

Students may make application for such leave by completing the Leave Request Form and submitting it to their Graduate Coordinator for approval. The form is then forwarded to the School for processing. The terminal date of the degree program will be extended by the duration of the leave taken. Except 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. Leave requests which do not fall under the terms of this policy will require final approval from the School.

**Parental Leave**
Graduate students may apply to their graduate unit for a parental leave. This policy is intended to recognize the need for leave at the time of pregnancy, birth, or adoption, and to permit a pause in studies in order to provide full-time care in the first year of parenting a new child.

Either parent may request up to three sessions of leave, which must be completed within twelve months of the date of birth or custody. Where both parents are graduate students seeking parental leave, the total number of sessions may not exceed four.

While on parental leave, students do not register or pay fees to the University. Such fees defray the cost of offering instruction, operating laboratories and libraries, and so on. Should students on parental leave wish to make use of library facilities, they are advised to consult the library regarding Research Reader privileges. Students on parental leave wishing to consult their supervisor and other faculty are advised to

make special arrangements as required. They will not be eligible to receive University of Toronto fellowship support during the leave, but they may defer their fellowships until they return from leave. In the case of other fellowships, the regulations of the particular granting agency will apply.

Students may apply for parental leave by completing the Parental Leave Request Form. The terminal date of the degree program will be extended by the duration of the leave taken. Normally, the start and finish of the leave would coincide with the beginning and end of a session.

**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. 4, 2002 | Deadline to add full courses (Y) and half-courses (H). |
| Nov. 1, 2002 | Deadline to drop a Fall Session full course or half-course without academic penalty. |
| Jan. 24, 2003 | Deadline to add Winter Session full courses (Y) and half-courses (H). |
| Feb. 28, 2003 | 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. 17, 2003 | Fall Session (Y, H) courses |
| May 16, 2003* | Fall/Winter Session (Y) and Winter Session (Y, H) courses<br>*For students receiving degrees at Spring Convocation, grades must be submitted by April 21. |
| Sep. 20, 2003 | Summer Session courses and extended 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.

**1** ***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.

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

**3** ***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 16, 2003 | Fall Session (Y, H) courses |
| Sep. 19, 2003 | Fall/Winter Session (Y) and Winter Session (Y, H) courses |
| Jan. 16, 2004 | 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.

**4** ***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.)

**5** ***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 Coordinator 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 candidates are admitted under the General Regulations of the School, described in Section 1 of this *Calendar*. The Degree Regulations for the various doctoral and master's degrees offered by the School are specified in Section 2 of this *Calendar* and in Section 8 of this *Calendar*, 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 in Section 8, 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 candidacy 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 candidacy.

***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 of Section 8 of this *Calendar* and in material published separately by graduate units. Continued candidacy 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 the termination of the registration and candidacy of a student who fails to maintain satisfactory progress toward the completion of the degree for which the student is a candidate.

***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 candidacy 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 Ph.D. Program***

A candidate for the Ph.D. degree 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 candidate 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 candidacy 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 Ph.D. Program***

A candidate for the Ph.D. degree enrolled in a full-time program (as opposed to a flexible-time program) will be denied further registration in the program and will have his or her candidacy terminated at the end of the third year of registration in the case of someone admitted on the basis of a master's degree, or at the end of the fourth year of registration otherwise, if, by that time, either

**1** the candidate has not completed all requirements for the degree exclusive of thesis research—including course requirements, language requirements, qualifying departmental examinations—or

**2** the candidate does not have an approved thesis topic, supervisor, or supervisory committee.
(Note: Some graduate units require candidates to register in courses that run continuously throughout the program, e.g., ongoing research seminar courses. The foregoing time limit does not apply to such courses.) In exceptional circumstances, such a candidate 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 Program Committee.

## UNIVERSITY GRADING PRACTICES POLICY

The policy is printed in ordinary type; additional comments appear in italics.

### Purpose

The purpose of the University Grading Practices Policy is to ensure:

(a) that grading practices throughout the University reflect appropriate academic standards;
(b) that the evaluation of student performance is made in a fair and objective manner against these academic standards;
(c) that the academic standing of every student can be accurately assessed even when courses have been taken in different divisions of the University and evaluated according to different grade scales.

### Application of Policy

The Policy applies to all individuals and committees taking part in the evaluation of student performance in degree, diploma, and certificate credit courses (hereafter referred to as courses).

### Amendment to Policy

Amendments to the Policy shall be recommended to the Academic Board. Changes to the divisional regulations on grading practices shall be forwarded to the Committee on Academic Policy and Programs.

### Distribution of Policy

A copy of the Grading Practices Policy as well as the description of the grade scales and the substance of divisional regulations indicated in Part II of this Policy shall be published in the Calendar of the division. Similarly a copy shall be given to all students upon initial registration and to all instructors and others, including teaching assistants, involved in the evaluation of student performance.

The Policy is in three parts: Part I deals with grades, Part II outlines grading procedures to be adhered to in divisional regulations adopted as part of this Policy, and Part III is an administrative appendix available upon request from the Office of the Vice-President and Provost.

### *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 division in which the program is offered should be consulted.

I.2 Grades for each course shall be assigned with reference to the following meanings (which may be expanded in the divisional regulations under Part II):

Excellent
Good
Adequate
Marginal
Inadequate

### Grade Scales

I.3 Once a judgement on the performance of the student has been made, the following grade scales are to be used:

(a) the refined letter grade scale A+, A, A-, B+, B, B-, C+, C, C-, D+, D, D-, F;
(b) the numerical scale of marks, consisting of all integers from 0 to 100;
(c) for graduate divisions only, a truncated refined letter grade scale in which FZ replaces the C, D and F grades in (a) above and/or
(d) the scales Honours/Pass/Fail and Credit/No Credit.

### Grades vs. Scores

I.4 Grades should always be based on the approved grade scales. However, students may find that on any one evaluation they may receive a numerical or letter mark that reflects the score achieved on the test or essay. The cumulative scores may not be directly identified with

the final grade. Grades are final only after review by the divisional review committee described below.

**Grade Reporting**

I.5 Grades will be assigned according to the numerical scale of marks referred to in I.3 (b) above, and converted to the refined letter grade scale of I.3 (a) above. In graduate divisions, grades may be assigned according to the truncated refined letter grade scale of I.3 (c) above. The H/P/FZ and CR/NCR scales of I.3 (d) above may also be used. However, the grades assigned in a course must all be from the same scale.

I.6 All non-grade designators used in reporting course results must correspond to the University-wide standard. A list of the currently approved designators and their meanings is given in the Appendix A.2. See **Note* below.

I.7 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 must include:

(a) an enrolment history, which traces chronologically the student's entire participation at the University,

(b) a "grade point average" based on a 4-point scale for all undergraduate divisions. Note: grade point average values will be assigned as follows:

| | | |
|---|---|---|
| A+/A | = | 4.0 |
| A- | = | 3.7 |
| B+ | = | 3.3 |
| B | = | 3.0 |
| B- | = | 2.7 |
| C+ | = | 2.3 |
| C | = | 2.0 |
| C- | = | 1.7 |
| D+ | = | 1.3 |
| D | = | 1.0 |
| D- | = | 0.7 |
| F | = | 0.0 |

(c) an average grade for each course expressed using the refined letter grade scale (Note: these calculations should be restricted to courses of a specific size),

(d) both the numeric mark and its letter grade equivalent, where possible, for all courses,

(e) course weight values, expressed using a uniform system of values allowing for the relative values needed by each division,

(f) transfer credits granted,

(g) academic honours, scholarships and awards sanctioned by the University,

(h) a comprehensive guide explaining all grades and symbols used on the transcript.

**Note: A list of the currently approved designators and their meanings is given in the Appendix A.2 as indicated in 1.6 above. Those used by the School of Graduate Studies and approved by Academic Board are listed below.*

**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 Associate 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.

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.

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.

XMP Exemption: Granted on the basis of credit for work done elsewhere. It carries credit for the course, but is not considered for averaging purposes.

***PART II: GRADUATE GRADING PROCEDURES***

| Grade Meanings | Truncated Letter Grade Scale | Numerical Mark Scale |
|---|---|---|
| | A+ | 90-100% |
| Excellent | A | 85-89% |
| | A- | 80-84% |
| | B+ | 77-79% |
| Good | B | 73-76% |
| | B- | 70-72% |
| Inadequate | FZ | 0-69% |

**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 the University Grading 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.

*The School has developed a Code of Good Practice for Departmental Examinations. Copies are available from the Office of the Coordinator of Student Services.*

**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.

(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 affecting the grade is not settled to the mutual satisfaction of the chair or director, or designate, and the instructor, the matter shall be referred to the Associate Dean of the Division. 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.

**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; then, if the dispute persists, with the head of the graduate unit. Should the matter not be resolved, the student may appeal to the unit's Appeals Committee not later than six months after the ruling in question or the reporting of the grade. If the dispute is not resolved in the graduate unit, the matter should be referred to the Associate Dean of the Division. Should the matter not be settled, the student may make a formal appeal to the Graduate Academic Appeals Board of the School of Graduate Studies.

(c) An appeal to the Graduate Academic Appeals Board shall be commenced by filing a notice of appeal to the Board not later than six months after the decision being appealed has been communicated in writing to the appellant. Instructions and forms for appeal may be obtained from the Secretary to the Graduate Academic Appeals Board.

*A decision of the Graduate Academic Appeals Board 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 decision being appealed has been communicated in writing to the appellant.*

**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.

(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.

## 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.

After 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 unbound copy must be submitted to the School. 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 National Library's Non-Exclusive Right

to Reproduce Theses, and the University Microfilms Inc. (UMI) Subject Category form must be submitted with the unbound copy. The unbound copy will be returned to the University Library after a microfiche copy has been made by UMI. The Library will arrange for the binding of these copies which will be deposited in the University Library. Candidates will be charged $15.00 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 UMI. 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 for Microfilming and Binding".

Further details about doctoral theses may be found in Section 2 Degree Regulations under Doctor of Philosophy, Final Oral Examination.

**Master's Thesis**
Required copies of the master's thesis must be submitted by the candidate to the relevant graduate unit, which should be consulted with regard to format, number of copies, and deadlines for submission. After successful completion of the candidate's final examination within the graduate unit, the original thesis copy, which ***must be unbound***, together with an abstract of 150 words maximum, the Authority to Distribute form, the National Library's Non-exclusive Licence to Reproduce Theses form, and the UMI Subject Category form must be forwarded to the School with the recommendation for the awarding of the degree. The degree recommendation form cannot be approved until the unbound copy is received in the School. The copy of the master's thesis, with its 150-word abstract, is then sent to University Microfilms Inc., the National Library's microfilming agent, with the Non-exclusive Licence to Reproduce Theses form signed by the author, authorizing the National Library to microfilm the thesis and to make microfiche available on demand. A microfiche copy is deposited at UMI in Michigan. UMI will also include a copy of the abstract in the listings of Masters Abstracts International. To offset the cost incurred by the National Library, a fee of $35 is charged; it is paid by the student at the time the thesis is submitted to the School.

"Guidelines for the Preparation of Theses for Microfilming and Binding" are accessible on the Web at www.sgs.utoronto.ca under the Current Students section.

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

**Convocation Ceremonies**
Convocation ceremonies are held twice a year, in the spring and fall. The Coordinator of Student Services of the School of Graduate Studies submits the names of the graduands to the Office of Statistics, Records, and Convocation. This office advises the student regarding procedures for the convocation ceremony and is responsible for issuing diplomas.

Graduate degrees may also be conferred *in absentia* in March, upon the request of the student.

## INTELLECTUAL PROPERTY

*Telephone:* (416) 978-7833
*Fax:* (416) 978-5821
*E-mail:* monique.mcnaughton@utoronto.ca
*Web:* www.library.utoronto.ca/techtran/
www.innovationsfoundation.utoronto.ca/
www.sgs.utoronto.ca/
intellectualpropertyguidelines.asp

Intellectual Property arising from research at the University is normally owned by the property's creator(s) and the University. Except where otherwise determined by a separate third-party agreement, the University's Inventions Policy allows creators to assume full ownership of the intellectual property they create. Principal Investigators have an obligation to inform students if they are involved in research funded under agreements that grant intellectual property rights to a sponsor.

Every invention, including software, must be reported to the University of Toronto Research Services (UTRS). If the creator(s) choose to assume full ownership, the University will assign its ownership interest to the creator(s) in return for certain undertakings, including returning to the University 25% of the proceeds from commercialization.

Among the various commercialization options available to creator(s) is the support offered through the Innovations Foundation. The Innovations Foundation is a subsidiary corporation of the University. It was established to assist in patenting, marketing, and commercializing inventions. The services of the Innovations Foundation are provided under an agreement negotiated between the owners of the intellec-

tual property and the Foundation in exchange for a share of future revenue.

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

Copies of the Inventions Policy, the Confidential Disclosure Form, and the SGS Guidelines on Intellectual Property for Graduate Students and Supervisors are available from UTRS, from the Web sites, and from the Innovations Foundation. For more information, visit the Web sites listed above.

## 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. The SGS Guidelines for Ethical Conduct in Research cover students in the School's centres and institutes. Copies of the policy are available from the Office of the Coordinator of Student Services.

## 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.

## 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. Below are extracts from the Code covering offences, procedures, and sanctions. The full text of the Code is available on the University of Toronto Web site at www.utoronto.ca/govcncl/pap/alphapol.htm. The Code is enforced by the Dean, the Provost, and the University Disciplinary Tribunal. In cases involving graduate students, the divisional dean is the Dean of the School of Graduate Studies.

### A. Preamble

The concern of the Code of Behaviour on Academic Matters is with the responsibilities of all parties to the integrity of the teaching and learning relationship. Honesty and fairness must inform this relationship, whose basis remains one of mutual respect for the aims of education and for those ethical principles which must characterize the pursuit and transmission of knowledge in the University.

What distinguishes the University from other centres of research is the central place which the relationship between teaching and learning holds. It is by virtue of this relationship that the University fulfils an essential part of its traditional mandate from society, and, indeed, from history: to be an expression of, and by so doing to encourage, a habit of mind which is discriminating at the same time as it remains curious, which is at once equitable and audacious, valuing openness, honesty and courtesy before any private interest.

This mandate is more than a mere pious hope. It represents a condition necessary for

free enquiry, which is the University's life blood. Its fulfilment depends upon the well being of that relationship whose parties define one another's roles as teacher and student, based upon differences in expertise, knowledge and experience, though bonded by respect, by a common passion for truth and by mutual responsibility to those principles and ideals that continue to characterize the University.

This Code is concerned, then, with the responsibilities of faculty members and students, not as they belong to administrative or professional or social groups, but as they cooperate in all phases of the teaching and learning relationship.

Such cooperation is threatened when teacher or student forsakes respect for the other—and for others involved in learning—in favour of self-interest, when truth becomes a hostage of expediency. On behalf of teacher and student and in fulfilment of its own principles and ideals, the University has a responsibility to ensure that academic achievement is not obscured or undermined by cheating or misrepresentation, that the evaluative process meets the highest standards of fairness and honesty, and that malevolent or even mischievous disruption is not allowed to threaten the educational process.

These are areas in which teacher and student necessarily share a common interest as well as common responsibilities.

## B. Offences

The University and its members have a responsibility to ensure that a climate that might encourage, or conditions that might enable, cheating, misrepresentation or unfairness not be tolerated. To this end, all must acknowledge that seeking credit or other advantages by fraud or misrepresentation, or seeking to disadvantage others by disruptive behaviour is unacceptable, as is any dishonesty or unfairness in dealing with the work or record of a student.

Wherever in this Code an offence is described as depending on "knowing", the offence shall likewise be deemed to have been committed if the person ought reasonably to have known.

**B.I.**

1. It shall be an offence for a student knowingly:
   (a) to forge or in any other way alter or falsify any document or evidence required by the University, or to utter, circulate or make use of any such forged, altered or falsified document, whether the record be in print or electronic form;
   (b) to use or possess an unauthorized aid or aids or obtain unauthorized assistance in any academic examination or term test or in connection with any other form of academic work;
   (c) to personate another person, or to have another person personate, at any academic examination or term test or in connection with any other form of academic work;
   (d) to represent as one's own any idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e., to commit plagiarism;
   (e) to submit, without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course or program of study in the University or elsewhere;
   (f) to submit any academic work containing a purported statement of fact or reference to a source which has been concocted.

2. It shall be an offence for a faculty member knowingly:
   (a) to approve any of the previously described offences;
   (b) to evaluate an application for admission or transfer to a course or program of study by reference to any criterion that is not academically justified;
   (c) to evaluate academic work by a student by reference to any criterion that does not relate to its merit, to the time within which it is to be submitted or to the manner in which it is to be performed.

3. It shall be an offence for a faculty member and student alike knowingly:
   (a) to forge or in any other way alter or falsify any academic record, or to utter, circulate or make use of any such forged, altered or falsified record, whether the record be in print or electronic form;
   (b) to engage in any form of cheating, academic dishonesty or misconduct, fraud or misrepresentation not herein otherwise described, in order to obtain academic credit or other academic advantage of any kind.

4. A graduate of the University may be charged with any of the above offences committed knowingly while he or she was an active student, when, in the opinion of the Provost, the offence, if detected, would have resulted in a sanction sufficiently severe that the degree would not have been granted at the time that it was.

**B.II** Parties to Offences

1. (a) Every member is a party to an offence under this Code who knowingly:
   (i) actually commits it;
   (ii) does or omits to do anything for the purpose of aiding or assisting another member to commit the offence;
   (iii) does or omits to do anything for the purpose of aiding or assisting any other person who, if that person were a member, would have committed the offence;
   (iv) abets, counsels, procures or conspires with another member to commit or be a party to an offence; or
   (v) abets, counsels, procures or conspires with any other person who, if that person were a member, would have committed or have been a party to the offence.
   (b) Every party to an offence under this Code is liable upon admission of the commission thereof, or upon conviction, as the case may be, to the sanctions applicable to that offence.

2. Every member who, having an intent to commit an offence under this Code, does or omits to do anything for the purpose of carrying out that intention (other than mere preparation to commit the offence) is guilty of an attempt to commit the offence and liable upon conviction to the same sanctions as if he or she had committed the offence.

3. When a group is found guilty of an offence under this Code, every officer, director or agent of the group, being a member of the University, who directed, authorized or participated in the commission of the offence is a party to and guilty of the offence and is liable upon conviction to the sanctions provided for the offence.

## C. Procedures in Cases Involving Students

At both the divisional level and the level of the University Tribunal, the procedures for handling charges of academic offences involving students reflect the gravity with which the University views such offences. At the same time, these procedures and those which ensure students the right of appeal represent the University's commitment to fairness and the cause of justice.

**C.I.(a)** Divisional Procedures

**Note:** Where a student commits an offence, the faculty in which the student is registered has responsibility over the student in the matter. In the case of Scarborough and Erindale Colleges, the college is deemed to be the faculty.

1. No hearing within the meaning of section 2 of the *Statutory Powers Procedure Act* is required for the purposes of or in connection with any of the discussions, meetings and determinations referred to in C.I.(a), and such discussions, meetings and determinations are not proceedings of the Tribunal.

2. Where an instructor has reasonable grounds to believe that an academic offence has been committed by a student, the instructor shall so inform the student immediately after learning of the act or conduct complained of, giving reasons, and invite the student to discuss the matter. Nothing the student says in such a discussion may be used or receivable in evidence against the student.

3. If after such discussion, the instructor is satisfied that no academic offence has been committed, he or she shall so inform the student and no further action shall be taken in the matter by the instructor, unless fresh evidence comes to the attention of the instructor, in which case he or she may again proceed in accordance with subsection 2.

4. If after such discussion, the instructor believes that an academic offence has been committed by the student, or if the student fails or neglects to respond to the invitation for discussion, the instructor shall make a report of the matter to the department chair or through the department chair to the dean. (See also section C.I.(b) 1.)

5. When the dean or the department chair, as the case may be, has been so informed, he or she shall notify the student in writing accordingly, provide him or her with a copy of the Code and subsequently afford the student an opportunity for discussion of the matter. In the case of the dean being informed, the chair of the department and the instructor shall be

invited by the dean to be present at the meeting with the student. The dean shall conduct the interview.

6. Before proceeding with the meeting, the dean shall inform the student that he or she is entitled to seek advice, or to be accompanied by counsel at the meeting, before making, and is not obliged to make, any statement or admission, but shall warn that if he or she makes any statement or admission in the meeting, it may be used or receivable in evidence against the student in the hearing of any charge with respect to the alleged offence in question. The dean shall also advise the student, without further comment or discussion, of the sanctions that may be imposed under section C.I.(b), and that the dean is not obliged to impose a sanction but may instead request that the Provost lay a charge against the student. Where such advice and warning have been given, the statements and admissions, if any, made in such a meeting may be used or received in evidence against the student in any such hearing.

7. If the dean, on the advice of the department chair and the instructor, or if the department chair, on the advice of the instructor, subsequently decides that no academic offence has been committed and that no further action in the matter is required, the student shall be so informed in writing and the student's work shall be accepted for normal evaluation or, if the student was prevented from withdrawing from the course by the withdrawal date, he or she shall be allowed to do so. Thereafter, the matter shall not be introduced into evidence at a Tribunal hearing for another offence.

8. If the student admits the alleged offence, the dean or the department chair may either impose the sanction(s) that he or she considers appropriate under section C.I.(b) or refer the matter to the dean or Provost, as the case may be, and in either event shall inform the student in writing accordingly. No further action in the matter shall be taken by the instructor, the department chair or the dean if the dean imposes a sanction.

9. If the student is dissatisfied with a sanction imposed by the department chair or the dean, as the case may be, the student may refer the matter to the dean or Provost as the case may be, for consideration.

10. If the student does not admit the alleged offence, the dean may, after consultation with the instructor and the department chair, request that the Provost lay a charge against the student. If the Provost agrees to lay a charge, the case shall then proceed to the Trial Division of the Tribunal.

11. Normally, decanal procedures will not be examined in a hearing before the Tribunal. A failure to carry out the procedures referred to in this section, or any defect or irregularity in such procedures, shall not invalidate any subsequent proceedings of or before the Tribunal, unless the chair of the hearing considers that such failure, defect or irregularity resulted in a substantial wrong, detriment or prejudice to the accused. The chair will determine at the opening of the hearing whether there is to be any objection to an alleged defect, failure or irregularity.

12. No degree, diploma or certificate of the University shall be conferred or awarded, nor shall a student be allowed to withdraw from a course from the time of the alleged offence until the final disposition of the accusation. However, a student shall be permitted to use University facilities while a decision is pending, unless there are valid reasons for the dean to bar him or her from a facility. When or at any time after an accusation has been reported to the dean, he or she may cause a notation to be recorded on the student's academic record and transcript, until the final disposition of the accusation, to indicate that the standing in a course and/or the student's academic status is under review. A student upon whom a sanction has been imposed by the dean or the department chair under section C.I.(b) or who has been convicted by the Tribunal shall not be allowed to withdraw from a course so as to avoid the sanction imposed.

13. A record of cases disposed of under section C.I.(a) and of the sanctions imposed shall be kept in the academic unit concerned and may be referred to by the dean in connection with a decision to prosecute, or by the prosecution in making representations as to the sanction or sanctions to be imposed by the Tribunal, for any subsequent offence committed by the student. Information on such cases shall be available to other academic units upon request and such cases shall be reported by the dean to the Secretary of the Tribunal for use in the Provost's annual report to the Academic Board. The dean may contact the Secretary of the Tribunal for advice or for information on cases disposed of under section C.II. hereof.

14. Where a proctor or invigilator, who is not a faculty member, has reason to believe that an academic offence has been committed by a student at an examination or test, the proctor or invigilator shall so inform the student's dean or department chair, as the case may be, who shall proceed as if he or she were an instructor, by analogy to the other provisions of this section.

15. In the case of alleged offences not covered by the procedures above and not involving the submission of academic work, such as those concerning forgery or uttering, and in cases involving cancellation, recall or suspension of a degree, diploma or certificate, the procedure shall be regulated by analogy to the other procedures of this section.

**C.I.(b)** Divisional Sanctions

1. In an assignment worth ten percent or less of the final grade, the department chair may handle the matter if:
   (i) the student admits guilt; and
   (ii) the assignment of a penalty is limited to at most a mark of zero for the piece of work.

If the student does not admit guilt, or if the department chair chooses, the matter shall be brought before the dean.

2. One or more of the following sanctions may be imposed by the dean where a student admits to the commission of an alleged offence:
   (a) an oral and/or written reprimand;
   (b) an oral and/or written reprimand and, with the permission of the instructor, the resubmission of the piece of academic work in respect of which the offence was committed, for evaluation. Such a sanction shall be imposed only for minor offences and where the student has committed no previous offence;
   (c) assignment of a grade of zero or a failure for the piece of academic work in respect of which the offence was committed;
   (d) assignment of a penalty in the form of a reduction of the final grade in the course in respect of which the offence was committed;
   (e) denial of privileges to use any facility of the University, including library and computer facilities;
   (f) a monetary fine to cover the costs of replacing damaged property or misused supplies in respect of which the offence was committed;
   (g) assignment of a grade of zero or a failure for the course in respect of which the offence was committed;
   (h) suspension from attendance in a course or courses, a program, an academic division or unit, or the University for a period of not more than twelve months. Where a student has not completed a course or courses in respect of which an offence has not been committed, withdrawal from the course or courses without academic penalty shall be allowed.

3. The dean shall have the power to record any sanction imposed on the student's academic record and transcript for such length of time as he or she considers appropriate. However, the sanctions of suspension or a notation specifying academic misconduct as the reason for a grade of zero for a course shall normally be recorded for a period of five years.

4. The Provost shall, from time to time, indicate appropriate sanctions for certain offences. These guidelines shall be sent for information to the Academic Board and attached to the Code.

**C.II.(a)** Tribunal Procedures

1. A prosecution for an alleged academic offence shall be instituted by the laying of a charge by the Provost against the accused. This is done when the student does not admit guilt; when the sanction desired is beyond the power of the dean to impose; when the student has been found guilty of a previous offence; or when the student is being accused simultaneously of two or more different offences involving more than one incident.

2. No charge shall be laid except with the agreement of the dean concerned and of the Provost, after consultation between the Provost and the Discipline Counsel.

3. A charge shall be in writing, addressed to the accused, signed by or under the authority of the Provost and filed with the Secretary. It shall contain a statement that the student is charged with having committed an offence specified therein, with sufficient particulars of the circumstances to enable the student to identify the alleged act or conduct giving rise to the charge.

4. Upon receipt by the Secretary of a charge which appears to be in proper form, the member of the Tribunal designated to be the chair of the hearing and the Secretary shall

immediately determine and give appropriate notice of a date, time and place for the hearing.

5. Withdrawal of a student from a course or program of study shall not preclude or affect any prosecution before the Tribunal in respect of an alleged academic offence.

6. The proceedings at a hearing, including the evidence and the verdict of the panel shall be recorded by the Secretary by means of a tape recording, stenographic reporter or other reliable means.

7. The procedures of the Tribunal shall conform to the requirements of the *Statutory Powers Procedure Act*, Revised Statutes of Ontario, 1990, Chapter S. 22, as amended from time to time.

8. The Tribunal may, from time to time, by a majority of its members, make, adopt and modify rules governing its procedures which are not inconsistent with the provision hereof, and all such rules and modifications shall be reported to the Academic Board for information.

9. The onus of proof shall be on the prosecutor, who must show on clear and convincing evidence that the accused has committed the alleged offence.

10. The accused shall not be compelled to testify at his or her hearing.

11. The divisions of the Tribunal are:
(a) Trial; and
(b) Appeal.

12. The members of the Trial Division of the Tribunal shall consist of a Senior Chair, two Associate Chairs and up to fifteen co-chairs, appointed by the Academic Board.

13. No presiding member of the Trial Division of the Tribunal shall be a full-time student or a full-time member of the teaching staff or a member of the administrative staff.

14. The Senior Chair, Associate Chairs and co-chairs, shall be legally qualified.

15. The Senior Chair shall be the chair of the Tribunal and either the Senior Chair, an Associate Chair or a co-chair, as selected by the Secretary, shall preside at trial hearings of the Tribunal.

16. Trial hearings of the Tribunal involving students registered at Scarborough College shall normally be held on the Scarborough campus of the University and those involving students registered at Erindale College shall normally be held on the Erindale campus of the University.

17. (a) The Tribunal shall,
(i) hear and dispose of charges brought under the Code;
(ii) report its decisions for information to the Academic Board;
(iii) make recommendations to the Governing Council as contemplated by the Code;
(iv) advise the Academic Board, from time to time, on policy and procedures with respect to the Code; and
(v) determine its practice and procedures, subject to the provisions hereof.

(b) Where it is considered to be warranted by the circumstances, the chair of a hearing may in his or her discretion award costs of any proceedings at trial, and may make orders as to the party or parties to and by whom and the amounts and manner in which such costs are to be paid.

18. Hearings in the Trial Division of the Tribunal shall be by a hearing panel composed of three persons, of whom one shall be a student, one shall be a faculty member and the third shall be the Senior Chair, an Associate Chair or a co-chair of the Tribunal.

19. The members of each panel (other than the chair) shall be drawn from a pool consisting of at least 15 students who are not also faculty members and at least 15 faculty members who are not students. The members of such pool shall be appointed by the Secretary, drawn from the various academic divisions and units of the University, and shall serve for a period of two years. The appointments shall be renewable upon invitation by the Senior Chair of the Tribunal.

20. Panel members for each case shall be selected by the Secretary who shall exercise due discretion in excluding members who may know either the accused or the circumstances of the alleged offence. Generally, student members will not be drawn from the same program of study as the accused. Faculty members from the department in which an offence is alleged to have occurred will be excluded from the panel.

21. Either the accused or the prosecution may challenge prior to the hearing, and the chair of the hearing may disqualify any prospective panel member for cause which in his or her opinion justifies such disqualification.

22. At trial hearings of the Tribunal,
(a) the chair of the hearing shall determine all questions of law and has a vote on the verdict and sanction; and
(b) the panel shall determine all questions of fact and render a verdict according to the evidence.

23. Where, after a charge has been laid by the Provost but before a Tribunal hearing takes place, the accused admits the alleged offence, the Provost may refer the matter either (i) to the dean, who shall impose the sanction(s) that he or she considers appropriate under section C.1.(b); or (ii) to a panel, in which event the panel may convict the accused without the prosecution having to lead evidence of guilt, and the panel shall impose a sanction or sanctions in accordance with section 25 or 26; provided that before any sanction is imposed, the dean or the panel, as the case may be, shall have afforded the accused an opportunity to offer an explanation and to present arguments and submissions as to sanction.

24. The verdict of a panel need not be unanimous but at least two affirmative votes shall be required for a conviction. Unless there are at least two affirmative votes for conviction, the accused shall be acquitted.

25. The sanction or sanctions to be imposed upon conviction at a hearing shall be determined by a majority of the panel members, and the panel shall give reasons for the sanction or sanctions imposed.

26. If the panel is unable to reach agreement, by a majority of its members, as to the sanction to be imposed, the chair of the hearing shall impose the sanction or set of sanctions which is the least severe of those that the individual members of the panel would impose.

27. There shall be a University Discipline Counsel and there may be one or more assistants to the Discipline Counsel, appointed by the Academic Board on the recommendation of the Provost.

28. The Discipline Counsel and any assistant shall be a barrister and solicitor qualified to practise law in Ontario and shall not be a full-time student or a full-time member of the teaching staff or a member of the administrative staff.

29. The Discipline Counsel or an assistant shall conduct all proceedings on behalf of the Provost before the Tribunal and on any appeal from a Tribunal decision.

30. The other duties of the Discipline Counsel and assistants shall be as determined by the Provost.

31. The Secretary of the Tribunal and his or her assistants shall be appointed by the Academic Board on the recommendation of the Provost.

32. The duties of the Secretary and assistants shall be determined by the Senior Chair and members of the Tribunal and reported to the Academic Board for information.

33. Where anything is required by the Code to be done by or with the Secretary, it may be done by or with the Secretary or any of his or her assistants.

**C.II.(b)** Tribunal Sanctions

1. One or more of the following sanctions may be imposed by the Tribunal upon the conviction of any student:
(a) an oral and/or written reprimand;
(b) and oral and/or written reprimand and, with the permission of the instructor, the resubmission of the piece of academic work in respect of which the offence was committed, for evaluation. Such a sanction shall be imposed only for minor offences and where the student has committed no previous offence;
(c) assignment of a grade of zero or a failure for the piece of academic work in respect of which the offence was committed;
(d) assignment of a penalty in the form of a reduction of the final grade in the course in respect of which the offence was committed;
(e) denial of privileges to use any facility of the University, including library and computer facilities;
(f) a monetary fine to cover the costs of replacing damaged property or misused supplies in respect of which the offence was committed;
(g) assignment of a grade of zero or a failure for any completed or uncompleted

course or courses in respect of which any offence was committed;

(h) suspension from attendance in a course or courses, a program, an academic unit or division, or the University for such a period of time up to five years as may be determined by the Tribunal. Where a student has not completed a course or courses in respect of which an offence has not been committed, withdrawal from the course or courses without academic penalty shall be allowed;

(i) recommendation of expulsion from the University. The Tribunal has power only to recommend that such a penalty be imposed. In any such case, the recommendations shall be made by the Tribunal to the President for a recommendation by him or her to the Governing Council. Expulsion shall mean that the student shall be denied any further registration at the University in any program, and his or her academic record and transcript shall record this sanction permanently . Where a student has not completed a course or courses in respect of which an offence has not been committed, withdrawal from the course or courses without academic penalty shall be allowed. If a recommendation for expulsion is not adopted, the Governing Council shall have the power to impose such lesser penalty as it sees fit.

(j) (i) recommendation to the Governing Council for cancellation, recall or suspension of one or more degrees, diplomas or certificates obtained by any graduate; or

(ii) cancellation of academic standing or academic credits obtained by any former student who, while enrolled, committed any offence which if detected before the granting of the degree, diploma, certificate, standing or credits would, in the judgment of the Tribunal, have resulted in a conviction and the application of a sanction sufficiently severe that the degree, diploma, certificate, standing, credits or marks would not have been granted.

2. The hearing panel shall have the power to order that any sanction imposed by the Tribunal be recorded on the student's academic record and transcript for such length of time as the panel considers appropriate.

3. The Tribunal may, if it considers appropriate, report any case to the Provost who may publish a notice of the decision of the Tribunal and the sanction or sanctions imposed in the University newspapers, with the name of the student withheld.

## CODE OF STUDENT CONDUCT

Non-academic offences are defined in the University's Code of Student Conduct, the full text of which is available on the University of Toronto Web site at www.utoronto.ca/govcncl/pap/alphapol.htm. Extracts from the Code, provided below, are printed in ordinary type. References in square brackets are to original section numbering in the Code.

### [B.] Offences

The following offences constitute conduct that shall be deemed to be offences under this *Code*, when committed by a student of the University of Toronto, provided that such conduct

(i) has not been dealt with as failure to meet standards of professional conduct as required by a college, faculty or school; and

(ii) is not specifically assigned to the jurisdiction of the University Tribunal, as in the case of offences described in the *Code of Behaviour on Academic Matters*, or to another disciplinary body within the University of Toronto, as in the case of sexual harassment as described in the Policy and Procedures: Sexual Harassment; or to a divisional disciplinary body, such as a residence council or a recreational athletics disciplinary body; or is covered under these policies but which is deemed by the head of the division to be more appropriately handled by the *Code of Student Conduct*; and

(iii) except as otherwise provided herein, occurs on premises of the University of Toronto or elsewhere in the course of activities sponsored by the University of Toronto or by any of its divisions; and

(iv) has not been dealt with under provisions for the discipline of students with respect to University offices and services whose procedures apply to students in several academic divisions, such as University residences, libraries or athletic and recreational facilities.

**1. Offences Against Persons**

(a) No person shall assault another person sexually or threaten any other person with sexual assault.

(b) No person shall otherwise assault another person, threaten any other person with bodily harm, or knowingly cause any other person to fear bodily harm.

(c) No person shall knowingly create a condition that unnecessarily endangers the health or safety of other persons.

(d) No person shall threaten any other person with damage to such person's property, or knowingly cause any other person to fear damage to her or his property.

(e) No person shall engage in a course of vexatious conduct that is directed at one or more specific individuals, and

that is based on the race, ancestry, place of origin, colour, ethnic origin, citizenship, sex, sexual orientation, creed, age, marital status, family status, handicap, receipt of public assistance or record of offences of that individual or those individuals, and

that is known to be unwelcome, and

that exceeds the bounds of freedom of expression or academic freedom as these are understood in University polices and accepted practices, including but not restricted to, those explicitly adopted.

Note: Terms in this section are to be understood as they are defined or used in the *Ontario Human Rights Code*. Vexatious conduct that is based on sex or sexual orientation is considered an offence under the University's *Policy and Procedures: Sexual Harassment*. If the Sexual Harassment Officer believes, after consultation with relevant parties, that a complaint based on sex or sexual orientation would be better handled under the *Code of Student Conduct*, the Officer may refer the matter to the appropriate head of division.

(f) (i) No person shall, by engaging in the conduct described in subsection (ii) below,

whether on the premises of the University or away from the premises of the University,

cause another person or persons to fear for their safety or the safety of another person known to them while on the premises of the University of Toronto or in the course of activities sponsored by the University of Toronto or by any of its divisions, or cause another person or persons to be impeded in exercising the freedom to participate reasonably in the programs of the University and in activities in or on the University's premises,

knowing that their conduct will cause such fear, or recklessly as to whether their conduct causes such fear.

(ii) The conduct mentioned in subsection (i) consists of
(a) repeatedly following from place to place the other person or anyone known to them;
(b) repeatedly and persistently communicating with, either directly or indirectly, the other person or anyone known to them;
(c) besetting or repeatedly watching the dwelling-house, or place where the other person, or anyone known to them, resides, works, carries on business or happens to be; or
(d) engaging in threatening conduct directed at the other person or any member of the family, friends or colleagues of the other person.

**2. Disruption**

No person shall cause by action, threat or otherwise, a disturbance that the member knows obstructs any activity organized by the University of Toronto or by any of its divisions, or the right of another member or members to carry on their legitimate activities, to speak or to associate with others.

For example, peaceful picketing or other activity outside a class or meeting that does not substantially interfere with the communication inside, or impede access to the meeting, is an acceptable expression of dissent. And silent or symbolic protest is not to be considered disruption under this Code. But noise that obstructs the conduct of a meeting or forcible blocking of access to an activity constitutes disruption.

**3. Offences Involving Property**

(a) No person shall knowingly take, destroy or damage premises of the University of Toronto.

(b) No person shall knowingly take, destroy or damage any physical property that is not her or his own.

(c) No person shall knowingly destroy or damage information or intellectual property belonging to the University of Toronto or to any of its members.
(d) No person, in any manner whatsoever, shall knowingly deface the inside or outside of any building of the University of Toronto.
(e) No person, knowing the effects or property to have been appropriated without authorization, shall possess effects or property of the University of Toronto.
(f) No person, knowing the effects or property to have been appropriated without authorization, shall possess any property that is not her or his own.
(g) No person shall knowingly create a condition that unnecessarily endangers or threatens destruction of the property of the University of Toronto or of any of its members.

**4. Unauthorized Entry or Presence**
No person shall, contrary to the expressed instruction of a person or persons authorized to give such instruction, or with intent to damage or destroy the premises of the University of Toronto or damage, destroy or steal any property on the premises of the University of Toronto that is not her or his own, or without just cause knowingly enter or remain in or on any such premises.

**5. Unauthorized Use of University Facilities, Equipment or Services**
(a) No person shall knowingly use any facility, equipment or service of the University of Toronto contrary to the expressed instruction of a person or persons authorized to give such instruction, or without just cause.
(b) No person shall knowingly gain access to or use any University computing or internal or external communications facility to which legitimate authorization has not been granted. No person shall use any such facility for any commercial, disruptive or unauthorized purpose.
(c) No person shall knowingly mutilate, misplace, misfile, or render inoperable any stored information such as books, film, data files or programs from a library, computer or other information storage, processing or retrieval system.

**6. False charges**
No person shall knowingly or maliciously bring a false charge against any member of the University of Toronto under this *Code*.

**7. Aiding in the Commission of an Offence**
No person shall counsel, procure, conspire with or aid a person in the commission of an offence defined in this *Code*.

**8. Refusal to Comply with Sanctions**
No person found to have committed an offence under this *Code* shall refuse to comply with a sanction or sanctions imposed under the procedures of this *Code*.

**9. Unauthorized Possession or Use of Firearms or Ammunition**
No person other than a peace officer or a member of the Canadian Forces acting in the course of duty shall possess or use any firearm or ammunition on the premises of the University of Toronto without the permission of the officer of the University having authority to grant such permission.

Note: The President of the University or another senior officer designated by the President has been given the authority to grant such permission for the premises of the University of Toronto under the authority of the Governing Council of the University. The President has designated the Vice-President, Business Affairs, who is the Chief Administrative Officer of the University to exercise this authority. Various officers of institutions federated with the University of Toronto have authority to grant such permission with respect to the premises of the federated institutions.

**[C.] Procedures**

**1. General**
(a) The University shall establish a centrally appointed pool of trained Investigating and Hearing Officers, who shall be available to the divisions, at the discretion of the head of the division, if that is considered appropriate or preferable for any reason.
(b) Each division shall appoint an Investigating Officer and a Hearing Officer, who may be student, staff or faculty members from that division.
(c) Whether the incident is investigated locally or centrally, every effort shall be made to conclude the case through to delivery of a final decision within the University within one year from the alleged incident of misconduct.
(d) Pursuant to the provisions of Section D., interim conditions may be imposed by the head of the division.

(e) For the purposes of confidential and central record keeping, a one-page summary of the outcome of all investigations, whether or not they have proceeded to a Hearing, shall be copied to the Judicial Affairs Officer in the Office of the Governing Council.
(f) Whenever possible and appropriate, informal resolution and mediation shall be used to resolve issues of individual behaviour before resort is made to formal disciplinary procedures.

**2. Specific**

(a) An Investigating Officer shall be appointed for a term of up to three years by the principal, dean or director (hereinafter called "head") of each faculty, college or school in which students are registered (hereinafter called "division"), after consultation with the elected student leader or leaders of the division, to investigate complaints made against student members of that division. Investigating Officers shall hold office until their successors are appointed.
(b) A Hearing Officer shall be appointed for a term of up to three years by the council of each division to decide on complaints under this *Code* made against student members of that division. Hearing Officers shall hold office until their successors are appointed.
(c) If the Investigating Officer is unable to conduct an investigation, or the Hearing Officer is unable to conduct a hearing, or where the head of the division believes on reasonable grounds that the appointed officer is inappropriate to conduct the particular investigation or chair a particular hearing, then the head of the division shall seek an appointment from the central pool for that particular case. If the head of the division intends to request either suspension from registration or expulsion from the University as a sanction in a particular case, or if the case appears to the head of the division to require a Hearing Officer with legal qualifications, then the Senior Chair of the University Tribunal may, on the application of the head of the division, appoint a legally qualified person as Hearing Officer for the particular case.
(d) Where the head of the division has reason to believe that a non-academic offence as defined in this *Code* may have been committed by a student member or members of the division, the Investigating Officer will conduct an investigation into the case. After having completed the investigation, the Investigating Officer shall report on the investigation to the head of the division. If the head of the division concludes, on the basis of this report, that the student or students may have committed an offence under the *Code of Student Conduct*, the head of the division shall have the discretion to request that a hearing take place to determine whether the student or students have committed the offence alleged.
(e) The hearing will be chaired by the Hearing Officer. The case will be presented by the Investigating Officer, who may be assisted and represented by legal counsel. If the right to a hearing is waived, or after a hearing, the Hearing Officer will rule on whether the student or students have committed the offence alleged and may impose one or more sanctions as listed below. The accused student or students may be assisted and represented by another person, who may be legal counsel.
(f) Appeals against decisions of bodies acting under authority from the council of a division to hear cases arising out of residence codes of behaviour may be made to the Hearing Officer of the division, where provision therefor has been made by the council of the division.
(g) Appeals against the decision of the Hearing Officer may be made to the Discipline Appeals Board of the Governing Council.
(h) Where the head of a division has reason to believe that a non-academic offence may have been committed by a group of students including students from that division and from another division or divisions, the head may consult with the head of the other division or divisions involved and may then agree that some or all of the cases will be investigated jointly by the Investigating Officers of the divisions of the students involved and that some or all of the cases will be heard together by the Hearing Officer of one of the divisions agreed upon by the heads and presented by one of the Investigating Officers agreed upon by the heads.

## [D.] Interim Conditions and Measures

1. **Interim Conditions: Ongoing Personal Safety**
   In those cases where the allegations of behaviour are serious and, if proven, could constitute a significant personal safety threat to other students or members of the University community, the head of the division is authorized to impose interim conditions that balance the need of complainants for safety with the requirement of fairness to the respondent student. The interim conditions are in no way to be construed as indicative of guilt, and shall remain in place until the charges are disposed of under the *Code*'s procedures.

2. **Interim Measures: Urgent Situations**
   In some circumstances, such as those involving serious threats or violent behaviour, it may be necessary to remove a student from the University. Where the head of the division has requested an investigation by the Investigating Officer and the investigation is pending, the Vice-President & Provost (or delegate) may, on the advice of the head of the division, suspend a student or students temporarily for up to three working days if, in the opinion of the Vice-President & Provost (or delegate), there is reasonable apprehension that the safety of others is endangered, damage to University property is likely to occur, or the continued presence of the student(s) would be disruptive to the legitimate operations of the University. The student(s) shall be informed immediately in writing of the reasons for the suspension and shall be afforded the opportunity to respond. Any such temporary suspension must be reviewed by the Vice-President & Provost (or delegate) within the three-day temporary suspension period, following a preliminary investigation, and either revoked or continued. If the suspension is continued, the student(s) may appeal to the Senior Chair (or delegate), or the Associate Chair (or delegate) of the University Tribunal, who shall hear and decide on the appeal within five days.

## [E.] Sanctions

The following sanctions or combinations of them may be imposed upon students found to have committed an offence under this *Code*.

In addition, students found to have committed an offence may be placed on conduct probation for a period not to exceed one year, with the provision that one or more of the following sanctions will be applied if the conduct probation is violated.

1. Formal written reprimand.

2. Order for restitution, rectification or the payment of damages.

3. A fine or bond for good behaviour not to exceed $500.

4. Requirement of public service work not to exceed 25 hours.

5. Denial of access to specified services, activities or facilities of the University for a period of up to one year.

The following two sanctions, which would directly affect a student's registration in a program, may be imposed only where it has been determined that the offence committed is of such a serious nature that the student's continued registration threatens the academic function of the University of Toronto or of any of its divisions or the ability of other students to continue their programs of study. Where the sanction of suspension and/or expulsion has been imposed on a student, the Vice-President & Provost (or delegate) shall have the power to record that sanction on the student's academic record and transcript for such length of time as he or she considers appropriate.

A sanction of suspension shall be recorded on the student's academic record and transcript for a period of five years. The following wording shall be used: "Suspended from the University of Toronto for reasons of non-academic misconduct for a period of [length of suspension], [date]."

A sanction of expulsion shall be permanently recorded on a student's academic record and transcript. The following wording shall be used: "Expelled from the University of Toronto for reasons of non-academic misconduct, [date]."

6. Suspension from registration in any course or program of a division or any divisions for a period of up to one year.

7. Recommendation for expulsion from the University.

## POLICY ON ACCESS TO STUDENT ACADEMIC RECORDS

The complete Policy on Access to Student Academic Records is available from the Office of the Coordinator of Student Services, School of Graduate Studies and on the University of Toronto Web site www.utoronto.ca/govcncl/pap/policies/academicrecords.htm. Extracts from the Policy are provided below in ordinary type. References in square brackets are to original section numbering in the Policy.

[3.] **Definition of the official student academic record**

The official student academic record refers to information relating to a student's admission to and academic performance at this University.

The "official student academic record" shall contain:

(a)(i) personal information which is required in the administration of official student academic records such as name, student number, citizenship, and social insurance number;

(ii) registration and enrolment information;

(iii) results for each course and academic period; and

(b)(i) narrative evaluations of a student's academic performance subsequent to his or her admission, used to judge his or her progress through an academic program;

(ii) basis for a student's admission such as the application for admission and supporting documents;

(iii) results of petitions and appeals filed by a student;

(iv) medical information relevant to a student's academic performance which has been furnished at the request or with the consent of the student concerned;

(v) letters of reference which may or may not have been provided on the understanding that they shall be maintained in confidence;

(vi) personal and biographical information such as address and telephone number.

The "official student academic record" shall be maintained by the University. For each type of information, academic divisions shall designate which document, form or medium contains the official version and how official copies of such information will be identified

[4.] **Access to official student academic records**

(a) Access by a student

(i) A student may examine and have copies made of his or her official student academic record defined in Section 3 above, with the exception of those portions of the record which comprise letters of reference (Section 3(b)(v)) which have been provided or obtained on the expressed or implied understanding that they shall be maintained in confidence. A student may, however, be advised of the identity of the authors of any confidential letters contained in his or her official academic record.

(ii) A student's request to examine a part of his or her official student academic record shall be made in writing and shall be complied with by the responsible authorities within a division. Such compliance shall occur within 30 days of receipt of the request, or within such lesser period as a division may determine.

(iii) A student has the right to challenge the accuracy of his or her official student academic record with the exception of the material specifically excluded in Section 4(a)(i) and to have his or her official student academic record supplemented with comments so long as the sources of such comments are identified and the official student academic record remains securely within the custody of the academic division. Reference to such comments does not appear on reports such as transcripts or statements of results.

(iv) It is assumed that all documents relating to petitions and appeals (Section 3(b)(iii)) and not provided on the understanding that they shall be maintained in confidence will be retained within a division, and when needed by a student, will be made freely available. In addition, *The Statutory Powers Procedure Act, 1971* of Ontario requires that where the good character, propriety of conduct or competence of a party is in issue in any proceedings in a tribunal to which the Act applies (such as the Academic Appeals

Committee of the Governing Council), the party is entitled to be furnished prior to the hearing with "reasonable information" of any allegations with respect thereto.

(b) Access by alumni and former students

(i) An alumnus or alumna or a former student may examine and have copies made of the portion of his or her official student academic record as defined in Section 3(a) above.

(ii) A request from an alumnus or alumna or a former student to examine the portion of the official student academic record as defined in Section 3(a) shall be made in writing and shall be complied with by the responsible authorities within a division. Such compliance shall occur within 30 days of receipt of the request, or within such lesser period as a division may determine.

(iii) An alumnus or alumna or a former student shall have the right to challenge the accuracy of his or her official student academic record only under such terms and conditions as the academic division may determine and publish in the divisional calendar.

(c) Access by University staff and members of official University and divisional councils and standing committees

Members of the teaching and administrative staff of the University and members of official University and divisional councils and committees shall have access to relevant portions of an official student academic record for purposes related to the performance of their duties. A staff member requesting information must have a legitimate need to have the requested information for the effective functioning of the position or office. Access to medical information as defined in Section 3(b)(iv) shall be granted to members of the teaching and administrative staff only with the prior expressed or implied consent of the student and, if applicable, in the case of a medical assessment, the originator (physician, etc.) of such.

The Department of Alumni and Community Relations shall have access to appropriate personal information on students and alumni for the purpose of maintaining contact with alumni.

(d) Access by University campus organizations

Recognized campus organizations in the University of Toronto shall have access to the information referred to in Section 3(a)(ii) as well as to the sessional address and telephone number of students named by that organization for the legitimate internal use of that organization. The Students' Administrative Council, Graduate Students' Union, Association for Part-time Undergraduate Students, and The Newspaper shall be entitled to publish and distribute within the University community a University-wide directory of students (including undergraduate, graduate, full-time and part-time) giving the sessional address and telephone number of students as long as there is a realistic provision for students to decline to consent to the disclosure of that information.

Names and addresses of students will also be provided to recognized campus organizations for the purpose of distributing information when all of the following conditions are met:

- the name and address information is not released to a third party.
- the name and address information is not used for commercial purposes.
- the organization proposes to distribute information which, in the opinion of the Assistant Vice-President (Planning) and University Registrar, the University would be willing to distribute if reimbursed by the organization.
- the information to be distributed is intended to provide information about the University and is not primarily advertisements for non-University organizations.
- the campus organization agrees to use the name and address information only for the specific purpose for which it was provided.

(e) Access by others

(i) By the act of registration, a student gives implicit consent for a minimal amount of information to be made freely available to all enquirers: the academic division(s), degree program(s) and the session(s) in which a student is or has been registered, degree(s) received and date(s) of convocation.

(ii) Any other information contained in the official student academic record (including any comments generated under Section 4(a)(iii) but with the exception of the material specifically excluded in Section 4(a)(i)), shall be released to other persons and agencies only with the student's prior expressed written consent, or on the

presentation of a court order, or in accordance with the requirements of professional licensing or certification bodies, of the Ministry of Colleges and Universities for an annual enrolment audit, or otherwise under compulsion of law. Requests granted to any persons or agencies outside the University for access to a student's academic record shall be kept on file within a division. The release of the information concerning alumni and former students contained in the portions of the academic record as defined in Section 3(a)(i) shall also be governed by the above provisions.

(iii) General statistical material drawn from academic records not disclosing the identities of students, alumni and former students may be released for research and informational purposes authorized by the University by the academic division maintaining these records.

(iv) in the event that a student, alumnus or alumna or a former student is deceased, the executors of his or her estate shall have access to the official student academic record under the same terms as would the individual if he or she were still living.

(f) Refusal of access
The University reserves the right to withhold access to the statements of results and transcripts of students, alumni and former students who have outstanding debts or obligations to the University in accordance with the Policy on Academic Sanctions for Students Who Have Outstanding University Obligations. The University may also choose not to release the official diploma to such persons nor to provide written or oral certifications of degree on their behalf.

[5.] **Custody and retention of official student academic records**

(a) Academic records of students are normally under the custodial responsibility of the academic division. Every academic division maintaining official student academic records shall draw up plans for the eventual disposition of their records in consultation with the University Archivist and in accordance with an approved records schedule which is in compliance with this policy.

(b) Those portions of the official student academic record as defined in Section 3(a) shall be maintained permanently. Each academic division's records schedule shall specify the document, form or medium in which these records will be maintained.

(c) Official student academic records preserved in the University Archives because of their archival value shall become open to researchers authorized by the University seventy-five years after a student has ceased to be registered.

[6.] **The University's responsibilities with reference to the official academic records of students, alumni and former students**

(a) Students shall be informed of University policy and divisional procedures with respect to their official student academic records.

(b) Academic divisions, administrative divisions which handle student academic records and campus organizations shall develop administrative procedures in support of this policy.

(c) Academic records shall be kept at all times under appropriate security.

[7.] Notwithstanding other provisions of the Policy on Access to Student Academic Records, for the sole purpose of administering drug and health insurance plans organized by the Students' Administrative Council, the association of Part-time Undergraduate Students, and the Graduate Students' Union, a list of the names, addresses, and student numbers of students in the relevant plan may be provided to the insurance company designated by the student organization. The terms and conditions under which the lists will be provided shall be satisfactory to the Vice-Provost, Students and shall be reflected in formal agreements which ensure that the information is adequately safeguarded and used only for the purpose for which it is provided. A similar list may be provided directly to the student organization under terms and conditions satisfactory to the Vice-Provost, Students, provided the Vice-Provost is satisfied that this is required for the administration of the plan.

## 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/govcncl/pap/alphapol.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

- acknowledges that it conducts its teaching, research and other activities in the context of a richly diverse society;
- recognizes that the attainment of excellence in pursuit of its mission is furthered by the contribution made by persons reflecting this rich diversity;
- 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;
- 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*.

# 2

# Degree Regulations

**All degree candidates are accepted under the General Regulations of the School of Graduate Studies, as described in section 1, General Regulations.**

In this section:

**Introduction**
**Doctor of Philosophy (Ph.D.)**
**Doctor of Education (Ed.D.)**
**Master of Arts (M.A.)**
**Master of Science (M.Sc.)**
**Master of Applied Science (M.A.Sc.)**
**Master of Engineering (M.Eng.)**
**Master of Health Science (M.H.Sc.)**
**Master of Education (M.Ed.)**

Degree regulations not found in this section appear in the SGS Calendar under Section 8, Graduate Programs and on the SGS Web site at www.sgs.utoronto.ca. Graduate unit entries are listed alphabetically with degree regulations appearing under the appropriate entry.

## INTRODUCTION

### Graduate Student Supervision

While the special, collaborative relationship between student and supervisor serves as a foundation for graduate education, particularly at the Ph.D. 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 Ph.D. Supervision” (Endrenyi Report).

Although the report indicates procedures to be followed in the supervision of Ph.D. 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 the Endrenyi Report. 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 Endrenyi recommendations may inform his or her Coordinator of Graduate Studies or the Associate Dean of the Division.

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 Ph.D. students registered in its programs. The procedure shall contain the following minimum elements, consistent with the "Guidelines for Departmental Monitoring of Progress Through

the Ph.D.", available at graduate units and the School of Graduate Studies:
**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**
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. 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 Associate 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 Associate Dean or designate.

## 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 Ph.D. 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 Ph.D. programs within four years, they have been asked to include a statement to that effect in their calendar entries.

**Admission Requirements**
**1** ***Four-Year Ph.D. Program***
Candidates 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 Ph.D. Program***
Candidates admitted to this program require a four-year University of Toronto bachelor's degree or its equivalent with at least B+ standing from a recognized university in a discipline deemed appropriate to the intended field of doctoral study. Candidates who hold a master's degree in another discipline or require further preparation would also normally be admitted to this program.
**3** Candidates with a Phil.M. degree may be admitted with advanced standing to a Ph.D. program.

**Registration**
**1** A candidate for the degree of Doctor of Philosophy must be regularly registered in the School of Graduate Studies in accordance with the procedures of the General Regulations. Ph.D. 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 provisionally 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 sub-

mitted by that date, additional requirements may be added to the Ph.D. program.

**Transfers**

**1 *Master's to Ph.D.***

A candidate may be recommended for transfer from a master's program to a Ph.D. program. In such cases, the student will transfer to a five-year Ph.D. program. The total number of courses required for the Ph.D. is the sum of the normal master's and Ph.D. course requirements unless otherwise specified by the graduate unit.

**2 *Ph.D. to Master's***

Candidates transferring from the Ph.D. 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 Associate 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.

**Program Requirements**

**1 *Approval***

A candidate 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 October 15 of the second year. Graduate units may, at their discretion, require an earlier date.

**3 *Language Requirement***

The candidate 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 candidate for the Ph.D. degree enrolled in a full-time program (as opposed to a flexible-time program) will be denied further registration in the program and will have his or her candidacy terminated at the end of the third year of registration in the case of someone admitted on the basis of a master's degree, or at the end of the fourth year of registration otherwise, if, by that time, either

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

**b** the candidate does not have an approved thesis topic, supervisor, or supervisory committee.

**Note:** Some graduate units require candidates to register in courses that run continuously throughout the program, e.g., ongoing research seminar courses. The foregoing time limit does not apply to such courses.

In exceptional circumstances, such a candidate 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.

**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 Ph.D. 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. The hard copy of every thesis must be a printed or typed document in a standard form that can be easily microfilmed (see National Library guidelines 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 Ph.D. program and within seven years for the five-year Ph.D. 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.

Ph.D. 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 reinstated 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 the SGS Admissions and Programs Committee. It will be for a maximum of 12 months starting September, January, or May. The final oral examination must be held within the 12-month reinstatement period. A student reinstated after the degree time limit will pay a reinstatement 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 Ph.D. Degree**
Departments may develop, for approval, Ph.D. 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 Ph.D. 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 Ph.D. differs from the full-time Ph.D. 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 will be specified by the departmental regulations, but not less than six years regardless of the background of students at the time of their admission. Extensions are permitted under existing policy; students granted an extension may register full-time or part-time.

**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 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 Associate Dean of their Division.
**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.) 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 submit-

ted 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** The graduate unit will make nominations to SGS for a committee of four to six voting members to conduct the Final Oral Examination (the Examination Committee). The quorum is four voting members. The Committee is to consist of one to three members of the supervising committee and at least one member who has not been closely involved in the supervision of the thesis. Eligible for inclusion in the latter group would be the external appraiser (in person or by audio or videoconnection); members of the graduate faculty of the University in other departments, centres, or institutes; and other faculty members from the candidate's unit. The Associate Dean may modify the composition of the Examination Committee to fit exceptional circumstances. Graduate units must ascertain in advance the willingness of the persons named to act.

**5** SGS will appoint a non-voting Chair to the Examination Committee. The graduate unit is responsible for scheduling the examination, booking a room, and making appropriate technical arrangements.

**6** The graduate unit must submit to SGS a Certificate of Completion 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. SGS will release the appraisal to the graduate unit as soon as it is received; the graduate unit is responsible for the distribution of copies to the candidate (two weeks before the examination) and members of the Examination Committee. To avoid prejudicing the result of the examination, the 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.

**7** Members of the graduate faculty are entitled to attend the examination, and with the permission of the Chair 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 Associate Dean. Otherwise the examination is closed to the public. The vote at the examination takes into account both the thesis and the oral defence itself.

**8** The Examination Committee represents the Council of the School of Graduate Studies and through it the University. It is therefore responsible for the standard of the Ph.D. 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 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 Ph.D. 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.

**9** 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.

**10** 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 Ph.D. 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.

**11** 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.

**12** 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, which 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.

**13** The University Library authorization form and publication agreement must be signed by the candidate when the final thesis is submitted.

**14** The School requires that every Ph.D. thesis be published substantially as it is accepted as follows:

**a** After all the requirements for the degree have been met, the School will foward an original unbound copy of the thesis to University Microfilms Inc. (UMI), the National Library's microfilming agent, with the Non-exclusive Licence to Reproduce Theses Form, authorizing the National Library to reproduce, loan, distribute, or sell copies of the thesis in microform, paper, or electronic format. UMI will include the abstract in the listings of *Dissertation Abstracts International.* Titles published since 1997 are available in PDF digital format with 24-page previews.To offset the cost incurred by the National Library, UMI charges $35 per thesis, which is borne by the School.

**b** All theses copies **must include** an abstract. Most importantly, the technical requirements outlined in the guidelines for preparation of the abstract, (copies available in graduate units and the Ph.D. Examinations Office) must be followed in order for the abstract in the unbound copy to be reproduced in *Dissertation Abstracts International*.

The abstract in the final unbound copy of the thesis must be no longer than 350 words.

The National Library's Non-exclusive Licence to Reproduce Form must be signed and submitted to the Ph.D. Examinations Office when the final thesis is submitted. The National Library is prepared to allow a student to revoke the permission he/she has accorded to reproduce, loan, distribute, and sell copies of the thesis in the following situation: if a commercial publishing opportunity arises whereby the commercial publisher objects to the non-exclusive licence granted by the student to the National Library. In this case the National Library will request that UMI, after official notification by the student, withdraw the thesis in question from possible future sale and distribution. However, the thesis in microform format will remain in the National Library's collection and will continue to

be made available for on-site consultation and for interlibrary loan.

Publication in microfilm satisfies the School's publication requirement but does not preclude publication of the thesis or any part of it in a journal or as a monograph. In this case, acknowledgment should be made that the work is part of a thesis at the University of Toronto.

If a thesis includes material from other previously copyrighted works, such as offprints of journal articles, maps, published texts, etc., written authorization from the copyright holder is required in order that they may be filmed. This authorization can be included in the author's acknowledgements or at the top of the actual document (or first page of a document more than one page in length).

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 Council of the School of Graduate Studies.

Copies of the thesis shall bear the words "Thesis submitted in conformity with the requirements for the Degree of Doctor of Philosophy, Graduate Department of (name of department) in the University of Toronto." In a prominent place on the title page of the thesis the international copyright notice should appear, which consists of three elements in the same line:
**a** the letter "C" enclosed in a circle
**b** the name of the copyright owner, in this case the author
**c** the year
For further details, students should consult the pamplet, *Guidelines for the Preparation of Theses for Microfilming and Binding*.

## DOCTOR OF EDUCATION

The Ed.D. 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 M.Ed. or M.A. 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 in master's courses;
**2** Ordinarily, one year of professional preparation for education;
**3** Successful professional experience in education, or in a relevant field.

A candidate may be enrolled in one of the following graduate units:
- Adult Education, Community Development 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 candidates who have an M.Ed. or M.A. degree or the equivalent in the same area of specialization proposed at the doctoral level. Upon the recommendation of the home department, candidates beginning the degree program on a full-time basis can add prerequisite courses to their program. Otherwise, candidates must take prerequisite courses as "Special Students" at OISE/UT.
An eight half-course Ed.D. program should include at least four half-courses in the home department except as otherwise stated in departmental program descriptions.
**4** Candidates 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 candidate 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** 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 candidate.

**7** All requirements for the Ed.D. must be completed within six years of first enrolment as an Ed.D. candidate.

## 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** Candidates 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 candidate in this University shall pursue a program of advanced study approved by the graduate unit.

**2** All requirements for the degree of M.A. 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 candidates 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 M.A.Sc. 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 Ph.D. degree.

### Admission Requirements

**1** Candidates are accepted under the general regulations.

**2** Candidates 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 candidate by the graduate unit concerned.

A candidate 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, Geology, Materials Science and Engineering, Mechanical and Industrial Engineering.

### Program of Study

**1** Under the direction of one graduate unit, a candidate 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 M.Eng. 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** Candidates are accepted under the general regulations.

**2** Candidates 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 candidate by the graduate unit concerned.

A candidate 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 candidate 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 candidate'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
- 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** Candidates are admitted under the general regulations.
**2** An appropriate three- or 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.
**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 candidate may be enrolled in one of the following graduate units:
- Adult Education, Community Development 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 M.Ed. degree are as follows:
**1** Under the direction of one graduate unit, a candidate undertakes one of three options to complete the program.
***Option I—Coursework only***
Ten half-courses plus a comprehensive examination/requirement.
***Option II—Research Project***
Eight half-courses plus a research project or a Major Research Paper.
***Option III—Thesis***
Six half-courses plus a thesis.

The M.Ed. 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.

# 3

# Fees

**Schedule of Fees**
The annual Schedule of Fees, updated each year in June, is available on the Web 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, 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 full-time registration, specified on the offer of admission. This period establishes the minimum degree fee that must be paid before graduation.

In some masters' programs where sufficient course credits have been accumulated in a previous program, either here or at another university, a one-session fee may be waived.

In those departments where there is no residence or full-time attendance required and the degree is achieved by course work only, the length of program will be determined by the number of half-courses (or equivalent full

courses) required to complete the degree requirements. For example, for the M.B.A. degree:
Up to 12 half-courses is equivalent to a 1-year program.
13-17 half-courses is equivalent to a 1˚-year program.
18-24 half-courses 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 Ph.D. degree, and pay only the appropriate Ph.D. 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 must pay incidental 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.

**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 October 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 31 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 student has been reinstated after the time limit for a period of 12 months.

**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 mailed in February. There is a charge of $5.00 for the preparation of duplicate receipts.

**Transcripts**
An $9.00 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 on-line 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 $5.00 each, plus any necessary postage charges. Details and an order form are available at www.sgs.utoronto.ca.

# 4

# Financial Support and Exchange Programs

In this section:

**Awards Offered by the University**
**Awards in the Humanities and Social Sciences**
**Awards in the Mathematical, Physical, Biological and Applied Sciences**
**Fellowships Awarded by Government Agencies**
**Fellowships Awarded by Other Outside Agencies**
**Loans, Grants, and Other Bursaries**
**Teaching and Research Assistantships**
**Student Exchange Programs**

**Guaranteed Funding for Doctoral Students**
Financial support for graduate students is important to the University of Toronto. For this reason, the university took a major step in the year 2000 towards committing funding of at least $12,000 plus tuition and fees to eligible doctoral-stream students.

U of T is the first Canadian University to offer a guaranteed level of financial support for graduate students pursuing doctoral degrees. The funding will be available for up to five years of study and will help put eligible graduate students at U of T on a more equal footing with their counterparts in the United States.

This objective is to be realized for all graduate units by 2004. However, in many faculties and units this goal has already been met.

The funding package can be made up from a variety of sources including:
- external awards
- internal awards
- research assistantships
- teaching assistantships

Loans are not included in the guarantee and departments with more resources, such as lab-intensive science programs, are able to offer packages well above the guaranteed minimum.

Contact your graduate unit for more details.

***Note to OISE/UT students:***
Under the merger agreement between the University of Toronto and the Ontario Institute for Studies in Education (OISE), students in OISE/UT are not eligible for many of the internal funding awards described in the calendar. Students are advised to consult OISE/UT about their internal funding opportunities.

## 1. AWARDS OFFERED BY THE UNIVERSITY

***General University of Toronto Graduate Awards Policy***
Each graduate unit will establish an Awards Committee, consisting of at least three members of the graduate faculty of that unit, to adopt an Awards Policy that is fair and transparent for the students in that unit. The Awards Committee will oversee the implementation of the policy and approve any subsequent changes to it.

Although SGS encourages graduate units to tailor their Awards Policy to their own circumstances and needs, the policy must meet certain minimum conditions and requirements, as specified by SGS.

The Awards Policy of a graduate unit will specify the conditions of eligibility for holding an

award in that graduate unit; these conditions may exceed the minimum conditions provided by SGS. The policy should also provide information regarding the various sources of financial support available for students in that unit (e.g., teaching assistantships and research assistantships as well as fellowships); the manner in which support is distributed; the level and duration of support students can expect; and the conditions for renewal of support from year to year.

Graduate units will make their current Awards Policy available to all students in the unit and will ensure that the Fellowships and Loans Office of SGS has a copy of their current Awards Policy.

***Eligibility and Application***
Application dates and information correct at time of printing.

**Currently registered graduate students do not need to complete a separate award application (unless stated in the award description).**

Persons not currently University of Toronto graduate students, as well as registered graduate students intending to proceed to a different graduate degree in the following session, are encouraged to submit an application for admission by a deadline set by your graduate unit.

**Candidates submitting admission applications by the deadline are automatically considered for fellowships awarded by the University. No separate award application is required (unless stated in the award description).**

However, graduate students are advised to check with their graduate units for more information on the availability of awards, deadlines, and eligibility.

***Value***
See individual award descriptions. Since the value of an endowed award is dependent on the actual income of the fund, it is possible that the amount of the award at the time of payment may be different than that stated in this calendar *or* other appropriate committees.

Where the amount of the award is not payable from income earned on an endowed fund, payment will be dependent on the receipt of the amount of the annual award from the donor. An award does not include academic fees unless stated.

***Terms***
Nominations for these awards are made by the graduate units; decisions are made by the Fellowships Committee of the School of Graduate Studies.

Formal notification of awards is sent to successful applicants starting on or about April 1.

Fellowships are normally paid in one, two, or three instalments (depending on the tenure); the normal times are early September, mid to late January, and mid to late May. Award holders must be registered as full-time graduate degree students before cheques are issued.

A fellowship may be held with a University of Toronto teaching or research assistantship.

In accordance with Section 56 of the Canadian Income Tax Act, award income is taxable. Accordingly, a Canadian Income Tax Return must be filed on or before April 30 of the year following the receipt of the award.

The School of Graduate Studies reserves the right not to award any of the fellowships listed below in any year. Additional terms and conditions may apply for these fellowships.

**University of Toronto Fellowships (UTF)**

***Eligibility Requirements***
There is no eligibility restriction based on citizenship or status in Canada for the University of Toronto Fellowship (UTF).

Students registered in a master's program beyond the second year are not eligible to hold a UTF. Students admitted to the Ph.D. program on the basis of a bachelor's degree are not eligible to hold the fellowship beyond year six. Students admitted to the Ph.D. program on the basis of a master's degree are not eligible to hold a UTF beyond year five. Students may hold a UTF for a maximum of six years.

New students must have at least a B+ average grade in the final year of study in the degree program that is the basis of their admission to their graduate program at the University of Toronto.

Current graduate students must maintain good standing in their program (i.e., must complete the various requirements for their degree program in a satisfactory and timely manner) as determined by the graduate unit's time line for completion of the degree.

Students in the third year or higher of their doctoral program must have met with their Ph.D. Supervisory Committee within the last 12 months or sooner if required to do so by the graduate unit. The report of the Supervisory Committee must indicate that the student is making satisfactory progress towards the degree.

***Terms of University of Toronto Fellowship Awards***

Students must be registered as full-time degree candidates in order to hold a U of T Graduate Fellowship. They must be in full-time attendance for a minimum of 14 weeks in any session during which they hold awards. Except for absences necessary for research purposes, as approved by their graduate unit, they must reside in such geographical proximity as to be able to participate fully in their graduate unit's activities during that session. Students who are not in full-time attendance (except for approved absences for research purposes) for at least 14 weeks in a session will be required to repay the award.

Where programs exist that can be pursued on a part-time or full-time basis, graduate students with a disability that prevents them from enrolling on a full-time basis may, under certain circumstances, be considered for a University of Toronto Graduate Fellowship on the basis of academic merit. For this purpose, disability is defined under the Human Rights Code, Chapter 53, Section 9 (1)(b). To be eligible, a student must provide his or her graduate unit with a letter from the University's Director of Special Services to Persons with a Disability confirming that part-time study is, in effect, full-time study for that student.

Students dually registered in the third year of a master's program and first year of a Ph.D. must complete the requirements of the master's program before the end of the session of dual registration in order to retain their doctoral fellowships; if they fail to complete the master's program by this deadline, they will be required to repay the award.

**Ontario Student Opportunity Trust Fund (OSOTF)**

The University has established a number of endowed awards through the Ontario Student Opportunity Trust Fund program. Under the program every donated dollar is matched on a dollar-for-dollar basis by both the Government of Ontario and the University of Toronto. In accordance with the guidelines provided by the provincial government, the OSOTF awards must be given to Ontario residents on the basis of financial need as a primary selection criterion. Many of these OSOTF awards also have additional selection criteria, such as academic merit.

The OSOTF awards are identified below in boldface following the description. Whether explicitly stated in the description below or not, applicants must demonstrate financial need by completing a **U of T financial needs assessment form** available from the graduate units and the SGS Fellowships and Loans Office.

**Connaught Scholarships**

Approximately 25 entrance scholarships are awarded to full-time graduate students with outstanding records who are entering a research-oriented graduate degree program. Open equally to all disciplines. No special application is required. Students are automatically considered when they apply for admission to a graduate unit. Value in 2001-2002: $15,000 plus academic fees.

**SGS Post Doctoral Fellowships**

The program is designed to encourage students' timely progress through Ph.D. programs in the Humanities and Social Sciences, develop their teaching skills and get their dissertations into published form, enhancing their position in the job market.

Up to 6 fellowships will be awarded each year. Each Fellowship is worth $16,000.

To be eligible to hold the award, students must have completed their Ph.D. dissertations within four years of first registration for the Ph.D. degree (five years for those who entered the doctoral program straight from the bachelor's). Applicants must have submitted their dissertation and scheduled a final oral examination by August 31. The whole examination process should be completed before October 30.

Successful candidates will be expected to teach an undergraduate half-course under supervision in the general area of their dissertation. Such courses should be additional to the unit's normal offerings.

Recipients are selected by the School from nominations submitted by the graduate department. Awards are announced to the department in late fall. Consult your department for details.

**Eleanor Cate Allen Fellowship**

Awarded to a full-time degree student registered in the School of Graduate Studies. Value: to be determined.

**Joseph Bazylewicz Fellowships**

Awarded on the basis of financial need to students with Polish citizenship in any program at the University of Toronto. Interested students should submit an SGS Bursary Application, a letter of recommendation from a faculty member familiar with their work, and a copy of Polish citizenship to the Fellowships and Loans Office. Deadline: end of April. Value: annual income.

**Mary H. Beatty Fellowships**
Value in 2001-2002: $12,000.

**George Sidney Brett Memorial Fellowship**
Value: to be determined.

**Andrea and Charles Bronfman Student Awards in Israeli Studies**
Awarded by Admissions and Awards to undergraduate and/or graduate students to fund a period of research or study in Israel. Financial need and academic merit may also be considered. Value: annual income of fund.
**OSOTF**

**Evelyn Catherall Scholarship**
Awarded to Junior Fellows of Massey College to provide assistance in presenting a colloquium or conference paper. Financial need and academic merit will also be considered. Apply to Massey College. Value: annual income.
**OSOTF**

**Sir Joseph Flavelle Fellowship**
Value : to be determined.

**Margaret and Nicholas Fodor Fellowship**
Awarded to a full-time graduate student who is a Canadian citizen or permanent resident, on the basis of academic merit. Preference given to candidates who choose to pursue graduate studies at the University of Toronto rather than at an American institution, if financial assistance were available.

**International Recruitment Award**
Approximately 65 awards are offered each year to incoming doctoral or research-oriented master's students. This renewable award pays the difference between the international student academic fee and the domestic student academic fee.

**The Agnes M. Ireland Award**
Awarded to female student(s) who, after completing the final year in an honour's program in the Faculty of Arts and Science or the final year in the Faculty of Medicine at the University of Toronto. Must begin a graduate degree program in the School of Graduate Studies within one year of completing undergraduate studies. Awarded to the student(s) who displays an all-round competence (academic and extracurricular activities). Applicants must submit an OSOTF needs assessment form, a statement outlining her plan of study, a letter of recommendation from a faculty member, transcripts, and a C.V. to SGS Fellowships and Loans Office. Deadline: end of April.
**OSOTF**

**Kwok Sau Po Scholarship**
Awarded on the basis of academic merit to an international student from Hong Kong/China enrolled in any full-time program.

**Ranjit Kumar Graduate Fellowship**
Awarded to a doctoral-stream student, with primary preference for candidates working in a subject area in which the donor has ongoing projects, and secondary preference for students working in a geographical area in which the donor has ongoing projects. Application required.

**Mary Elizabeth Mahony Fellowship**
This award is open to a male student who, at graduation, was registered in University College in the University of Toronto. Value: approximately $2,000.

**Massey College Graduate Fellowships**
Awarded to students studying at Massey College on the basis of financial need and academic merit.

**Donald Matheson Springer Fellowship**
Awarded to a University of Toronto graduate pursuing graduate studies at the University of Michigan. Application is by way of letter, including up-to-date transcripts and a letter of recommendation from a faculty member familiar with the student. Deadline: mid-April. Approximate value: $6,500 CDN.

**The McCuaig—Throop Bursary**
Through a bequest by the late Edith M. McCuaig, a fund has been established to provide bursaries for students registered full-time in a graduate degree program. The annual income from the estate is used to assist students on the basis of academic performance who require financial assistance, with preference being given to students from the districts of Temiskaming, Cochrane, and Nipissing in Northeastern Ontario.

**3M Canada Incorporated Scholarship**
One award of $1,000 each are available to students entering a graduate program in the Joseph L. Rotman School of Management or the Faculty of Arts and Science who have maintained grades establishing them in the top quartile of their program and who need financial assistance. Application is by way of nomination by the graduate unit. Deadline: end of April.

**The UTFA Al Miller Memorial Award**
Awarded to graduate students based on financial need and academic merit.

**Vivekananda Graduate Prize**
Awarded on the basis of financial need to the graduate student who best exemplifies Vivekananda's ideal of education. Applicant's record of academic performance will also be considered. Application is by way of nomination by the graduate unit and must include a statement from the applicant, a letter of recommendation, transcripts, and an OSOTF needs assessment form completed by the nominee. Deadline: end of April. Value: approximately $1000.
**OSOTF**

**Frank M. Waddell Scholarships**
Scholarships are open to students from Brant County, Ontario, and are awarded on the basis of academic merit to new or continuing graduate students. Apply by April 30 to Admissions and Awards, 315 Bloor Street West, Toronto, Ontario, M5S 1A1.

## AWARDS IN THE HUMANITIES AND SOCIAL SCIENCES

**ARMA Toronto Chapter Award**
Awarded to a full-time student with the highest academic standing in a Records Management course.

**Albert S. Abel Memorial Award**
Awarded on the basis of scholarship and financial need to a graduate student or students in the Faculty of Law.

**Scholarships in Aboriginal Health**
Awarded to Aboriginal students, including Status, Non-Status, Metis, and Inuit students, enrolled in graduate programs at the master's or doctoral level and second-entry programs. All Aboriginal students in these programs (full-time and part-time) are eligible to apply, with preference given to students demonstrating financial need. Eligible students should submit a letter of application listing their estimated costs and source/s of funding to First Nations House, Office of Aboriginal Services and Programs, 563 Spadina Avenue, Toronto, Ontario, M5S 1A1 by April 30. Telephone (416) 978-8227 or 978-7960.

**Mildred Adams Memorial Scholarship**
Awarded to a first year student in the Faculty of Information Studies to supplement tuition. Application must be made to the Faculty of Information Studies. Value: annual income.

**Elisabeth Alfoldi-Rosenbaum Memorial Award**
Awarded to any graduate student at the University of Toronto with a demonstrated interest in the areas of Professor Alfoldi-Rosenbaum's specialization, the Hellenistic through Early Byzantine periods (approximately 300 B.C.-700 A.D.). Financial need and academic merit are also considered. Value: annual income.
**OSOTF**

**Alpar (Graduate) Scholarship**
Friends and alumni of the Department of Geography have endowed funds to provide an annual scholarship to a graduate student in the department who is making good progress towards completing degree requirements and has exhausted all other funding sources. The award was established in honour of Mrs. Zehra Alpar, an administrative staff member in the Department of Geography for over 25 years.

**Alumni Entrance Fellowship**
Awarded on the basis of financial need to the most outstanding and desirable applicants of the Rotman School of Management's M.B.A. Program. Academic background and work experience will also be considered. Value: annual income.
**OSOTF**

**John G. Anderson Memorial Bursary**
Family and colleagues of the late John G. Anderson have donated funds for award to a student in the Faculty of Social Work. Value: annual income.

**Mary and Louis Anisman Fellowship**
For a graduate student who intends to write a master's or doctoral thesis on an aspect of the relationship of notions of fairness to law and its development, with emphasis on the intersection of law and morality. Value: annual income.
**OSOTF**

**Jeanne Anson-Cartwright Memorial Graduate Fellowship in Music Theory or History**
Awarded to an outstanding graduate student in the Music History or Music Theory program. Apply to the Faculty of Music. Value: annual income.

**David and Ruth Archibald Bursary Fund**
Awarded annually to a registered M.S.W. or Ph.D. student on the basis of financial need and high academic standing. The bursary is made possible through the generous support of Dr. David Archibald, the founder and CEO of the Addiction Research Foundation and recipient of

the Order of Canada. Apply to the Faculty of Social Work. Value: $1,000.

**Association of Architects' Scholarship**
One scholarship awarded each to a student completing the second year and third year of the Master of Architecture program.

**Faculty of Architecture, Landscape, and Design Admission Scholarships**
Awarded to students applying to the Master of Architecture program on the basis of ranked submission to the Admissions Committee. Minimum $500 each. Total awards will not exceed $2,500. Application not required.

**Faculty of Architecture, Landscape, and Design Award**
Awarded to students completing the first year of the Master of Architecture program who achieve overall excellence and exhibit potential for leadership in the field. Three awards in the amount of $1,000 each.

**Faculty of Architecture, Landscape, and Design Scholarship in Landscape Architecture**
Awarded to a student concluding the first year of the Master of Landscape Architecture Program, based on academic excellence and financial need.

**Barry Lorne Ardiel Scholarship**
Awarded to a student completing the second year of the Master of Landscape Architecture program who exhibits the highest scholastic achievement during that academic session. Application not required. Value: annual income.

**The Art History Graduate Scholarship Fund**
Various donors have established a fund, the annual income of which provides financial aid to graduate students in the Department of History of Art. In any given year the award may be restricted for travel support. Financial need and academic merit are also considered. Apply to the Chair of the Department of Fine Art.

**Eric Ross Arthur Scholarship**
Awarded to a student who has the highest academic standing in third year of the Master of Architecture program.

**The Associates of the University of Toronto Travel Award**
Awarded on the basis of financial need to doctoral students in the humanities for research or study outside Canada. Academic merit will also be considered.
**OSOTF**

**Marija Aukstaite Bursary**
Candidates must be fluent in the Lithuanian language. Awarded on the merits of a research proposal which aims to contribute to the understanding and evaluation of the works of the poet Marija Aukstaite.

**Avenor Graduate Award**
Avenor Inc., an international forest products company, has endowed funds to provide a scholarship to one or more full-time graduate students at the Centre for Industrial Relations. Value: approximately $4,000.
**OSOTF**

**The Donald K. Aynsley Scholarship**
This scholarship was established by the Ontario Labour Relations Board. It is a tribute to Donald Aynsley's years of service to the labour community as the former Registrar of the Board. The scholarship will be awarded on the basis of academic performance and financial need to a full-time graduate student enrolled at the Centre for Industrial Relations. Value: income.

**Shane Baghai Fellowship in English Literature**
Awarded on the basis of financial need and academic merit to a graduate student in one of the following areas: Centre for Comparative Literature, Centre for Study of Drama, Department of English, or the Centre for Medieval Studies. Applicant must provide a one- to two-page plan of study, a letter of recommendation, transcripts, and an OSOTF financial needs assessment form to SGS. Deadline: end of April. Approximate value: $10,000.
**OSOTF**

**John D. Barnes Geodetic Sciences Fellowship**
Mrs. Odette Barnes has endowed a fund, the income of which provides an award to a University of Toronto graduate who has completed the Geomatics/Land Information Systems program at Erindale College, with a grade average of at least B+ in the final year of full-time undergraduate study. The candidate must be entering the first year of full-time graduate studies in Geomatics/Land Information Systems at U of T.

**Winifred G. Barnstead Scholarship**
Awarded annually to a student in the first year of the M.I.S. program with high academic standing. Value: income from the fund.

**Bealight Foundation Graduate M.B.A. Fellowship**
An entrance award for an M.B.A. student who has demonstrated an enhanced commitment to and respect for social entrepreneurship. Preference will be given to students who have volunteer or work experience in the public and voluntary sectors.

**The George Becigneul Memorial Award**
In memory of George Becigneul, Mrs. Edith Becigneul has established an annual award of $500. This award is to be offered to a full-time graduate student on the basis of academic performance and need in the Centre for Industrial Relations.

**Louise Bennett Fellowship**
Through various donations, an award has been established in honour of Louise Bennett for a graduate student at the University of Toronto or the University of West Indies working in the area of West Indian literature or drama in English, French, or Spanish. Application is by way of nomination by faculty members at either university. Deadline: April 15.

**Patrick J. Bennett Jr. Admission Scholarship**
Awarded to an incoming student on the basis of academic merit and commitment to the community and the environment; evaluated on academic performance, portfolio, and résumé. Renewed in the second and third years of the MLA program as long as an A- standing is maintained and the student continues in the MLA program. Value: $1,500 each. Application not required.

**Dr. Ann Goldenberg Bergman Scholarship**
Awarded to a registered M.S.W. student with a demonstrated record of academic excellence and a strong potential for leadership in professional practice. Apply to the Faculty of Social Work by mid-September for the fall session. Value: annual income.
**OSOTF**

**J. P. Bickell Foundation Graduate Fellowship in Classics**
Recipients must be entering or continuing studies at the M.A. or Ph.D. level in the Department of Classics. Financial need and academic merit will be considered. Value: annual income.
**OSOTF**

**Muriel D. Bissell**
Muriel D. Bissell has endowed funds to provide awards to graduate students in the Department of Sociology who are strongly committed to research on the problems of development in third world countries. Funds will be used to pay research costs such as travel, off-campus professional development, or data collection. Apply to the Department of Sociology.

**Ivan Bodnarchuk Scholarship in Ukrainian Studies**
The Chair of the Ukrainian Studies Foundation has established a fund, the income of which provides an annual award to a graduate student enrolled in a program of courses in Ukrainian studies. The recipient must demonstrate financial need and academic merit. Apply to the Faculty of Arts and Science Student Awards Selection Committee by April 15 for the upcoming fall/winter session and by October 15 for the upcoming spring /summer session.
**OSOTF**

**Hermann Boeschenstein Memorial Fellowship in German**
Friends of Hermann Boeschenstein, professor of German in University College from 1930-1972, have established an award in his honour. The scholarship, in the amount of not less than $1,000, will be awarded to a student entering the M.A. or Ph.D. program in Germanic Languages and Literatures. The scholarship carries with it membership in University College.

**Jean Sutherland Boggs Fellowship**
This fellowship provides financial aid to graduate students in the Department of Fine Art. Financial need and academic merit are considered. Awarded on the recommendation of the Department Chair. In any given year the award may be restricted to travel support. Application not required. Value: annual income.

**Paula Bonato Memorial Award**
Paul and Anna Maria Bonato and family have endowed a fund, the income of which provides an annual award, based on academic merit, for a master's student upon graduation in the Department of History of Art.

**The Bonham Scholarships**
Awarded on academic merit, a background in the finance industry, and plans to study finance at the Rotman School. Application not required. Value: annual income**.**

**The Senator Peter Bosa Graduate Fellowship in Italian Studies**
Mrs. Teresa Bosa has endowed a fund, the annual income of which is awarded to a student in the Department of Italian Studies on the basis of academic merit. Financial need may also be

considered. Apply to the Department of Italian Studies.

**Harvey Botting Entrance Scholarship**
Awarded to international and/or domestic first year M.B.A. students interested in pursuing degrees at the Rotman School of Management. Selection is based on candidate's background: strength of GMAT scores and undergraduate GPA or demonstrated leadership in previous work experience, or significant contribution to society made through active community involvement and voluntarism. Application not required. Value: annual income.

**The Gertrude M. Boyle Memorial Award in Cataloguing**
Stephen J. Mathers has established a fund, the annual income of which is awarded to a full-time or part-time Master of Information Studies student. The recipient must demonstrate a career interest in cataloguing and classification by having taken three or more elective courses in cataloguing, classification, or technical services and ranking highest within this group of courses.

**The Alexander Brady–MacGregor Dawson Scholarship**
This scholarship is in honour of two of Canada's most distinguished political scientists, Alexander Brady and MacGregor Dawson, both of whom were members of the former Department of Political Economy for many years. It is awarded annually to an outstanding student in the M.A. or Ph.D. programs in the Department of Political Science. Value: at least $3,000.

**Kenneth and Helen Bray Graduate Fellowship in Music Education**
Kenneth and Helen Bray have established a fellowship for award to an outstanding graduate student in the Music Education program who demonstrates an excellent level of musicianship and teaching ability. Preference is given to Canadian citizens showing a strong interest in teaching in Canadian schools. Apply to the Faculty of Music.

**Rabbi Brickner Scholarship in Social Service**
Awarded to a second year student in the M.S.W. program with high attainment and promise.

**Brickstop Corporation Scholarships**
Awarded to students concluding the first year of the Master of Architecture program on the basis of academic excellence and demonstrated potential for leadership.

**Peter H. Brieger Fellowship**
To provide financial aid to graduate students in the Department of Fine Art.

**Carmen Brock Fellowship**
Awarded on the basis of academic excellence to either M.A. or Ph.D. candidates in the History Department. Strong preference will be given to graduate students from post-secondary institutions in sub-Saharan Africa, the Caribbean Islands, Belize and/or Guyana who will be studying the history of these regions at the University of Toronto. If no candidate meets all the conditions, the History Department will consider candidates who meet the spirit and intention of the award. Value: annual income.

**Craig Brown Traveling Fellowship for History Graduate Students**
Open to any doctoral student registered in the History Department who requires financial support in order to travel to conduct research or present a paper at an academic conference. Granted on basis of need. Value: variable.
**OSOTF**

**Milton A. Buchanan Fellowships**
Funds from the estate of the late Milton A. Buchanan provide fellowships for award to outstanding candidates, chosen from the Department of Italian Studies and from the Department of Spanish, for thesis research towards the Ph.D. degree at the University of Toronto. Up to $5,000 is available for each department for award to one or more suitable candidates.

Applicants must have completed their course work and have passed their written and oral comprehensive examinations. Inquiries should be addressed to the Graduate Coordinator of either the Department of Italian Studies or of Spanish.

**Building Science Conference Award**
Awarded to a student completing the second year of the Master of Architecture program achieving the highest average in Building Science courses.

**Karel and Ellen Buzek Fellowship**
Awarded to graduate students studying at the Centre for Russian and Eastern European Studies (CREES) on the basis of financial need and academic merit. Application required or recipients must be identified as having financial need based on the University's criteria. Apply through CREES. Value: annual income.

**The CCCJ Fiftieth Anniversary First Families Award**
Awarded on the basis of financial need and academic merit to a graduate student writing a research paper or thesis on one of the following topics: issues related to cultural diversity identifying prejudice, its incidence and/or mode for its elimination. Priority will be given to research relevant to the Canadian experience. Applicants must be nominated by their graduate unit and provide a letter of recommendation, transcripts, a research proposal, and an OSOTF financial needs assessment form to SGS. Deadline: end of April.
**OSOTF**

**Giovanni Caboto Fellowship in Italian Canadian Studies**
On behalf of the Italian Community, Mr. L. Cianfarani has provided funds, the annual income of which is awarded to a graduate student working in the field of Italian Canadian Studies. Based on high academic achievement. Apply by letter to the Department of Italian Studies.

**Vivian and David Campbell Family Foundation Summer Training Fellowship**
The Vivian and David Campbell Family Foundation has provided an annual research award, based on financial need, to assist Museum Studies students in pursuing a twelve-week internship that usually occurs between first and second year of the program. Value: annual income.
**OSOTF**

**Canadian Imperial Bank of Commerce Scholarship in Youth Employment**
The Canadian Imperial Bank of Commerce has established scholarships for award to one or more students at the Centre for Industrial Relations. The recipient must be planning to work or be working with the holder of the CIBC Chair in Youth Employment. Eligibility is based on financial need and academic merit. Value: annual income.
**OSOTF**

**Capital Markets Institute ORDCF Graduate Fellowships**
Awarded, on the recommendation of the Ph.D. Program Director and the Associate Dean of Management, to Ph.D. students with an interest in capital market research. Value: annual income.

**John M. Cassaday M.B.A. Fellowship in Marketing**
Awarded, on the recommendation of the Rotman School of Management, to a student entering the full-time M.B.A. program with a planned specialization in Marketing. Winners will show good academic standing and possess related work experience. Preference is given to students who demonstrate financial need and who do not hold other awards offered by the School. Application not required. Value: annual income.

**Harold Carter Fellowship**
Awarded to one outstanding performing artist studying a stringed instrument in the Graduate Department of Music. The award is tenable at the master's level for a maximum of two years. Application not required. Value: annual income.

**Rudolph and Rosalie Cermak Graduate Fellowship**
Awarded to students affiliated with the Centre for Russian and East European Studies pursuing advanced study on the Czech Republic. Preference will be given to students required to acquire language training or research abroad in order to complete their degree requirements.

**Rudolf and Rosalie Cermak Fellowship**
The award will be given to a graduate student in the Centre for Russian and East European Studies pursuing advanced study of the Czech Republic or is coming from the Czech Republic to study or pursue research in the humanities or social sciences.

**Dipty Chakravarty Bursary Related to Bengal/Bengali**
Recipients may be graduate or undergraduate students undertaking a course of study related to Bengal/Bengali. Financial need and academic merit will be considered. Value: annual income.
**OSOTF**

**Mr. Paul Chan and Mrs. Rose Chan Memorial Scholarship**
Anna Chan has endowed a fund, the income of which provides a scholarship to a second year Master of Information Studies student specializing in technical services, who wishes to pursue a career in the area of knowledge or information organization. Academic merit and financial need are also taken into consideration. Application must be made to the Faculty of Information Studies in the fall. Value: annual income.

**The Colin Chase Memorial Bursary**
Friends and colleagues of the late Professor Colin Chase have endowed funds to provide an annual bursary to a graduate student in good standing in the Centre for Medieval Studies. The bursary is granted on the basis of financial need.

**Gordon Cheesbrough Graduate Fellowship in Philosophy**
Gordon Cheesbrough has endowed a fund in the form of five to six fellowships, each valuing up to a maximum of $500 for award to outstanding graduate students for research (i.e., conference presentations, travel, etc.). Apply to the Department of Philosophy by April 30.

**Gordon F. Cheesbrough M.B.A. Graduate Fellowship**
Recipient must be an M.B.A. student preferably with a concentration in ethics, or secondly, finance. No applications required. Value: annual income.

**Grace Hannah Chellam Scholarship**
Awarded annually (approximately $1,800) on the basis of financial need to a M.S.W. or Ph.D. student with a special interest or specialization in the area of international social work.
**OSOTF**

**The Bernard Chernos Graduate Fellowship in Law**
Awarded to a graduate student demonstrating academic excellence and financial need.

**Chinese Railroad Workers of Canada Memorial Scholarship**
The Foundation commemorates the Chinese Railroad Workers in Canada by making available an annual $1,000 award to a student entering the first year of the M.A./Ph.D. program in Canadian History.

**David Chu Travelling Scholarships**
Recipients may be graduate or undergraduate students undertaking a course of study related to the Asia-Pacific region. The award supports a period of study or research in the region. Financial need and academic merit will be considered. Applicants must be nominated by their graduate unit to the Faculty of Arts and Science Student Awards Committee by March 15 for the upcoming Fall/Winter session and by October 15 for the upcoming Spring/Summer session. Value: annual income.
**OSOTF**

**Citigroup Corporate and Investment Bank M.B.A. Award**
Awarded to a full-time international M.B.A./ Executive M.B.A. student on the basis of academic merit.

**Robert Franklin Clark Graduate Fellowship in Ukranian Language and Literature**
The Canadian Foundation for Ukranian Studies has endowed funds for a fellowship for award to one or more students who are pursuing studies in the field of Ukranian language and literature. Value: annual income.
**OSOTF**

**Class of 1997 Scholarship**
For award, on the basis of financial need, to two students at the end of their first year in the M.B.A. Program, who, through leadership and commitment to excellence, have contributed the most to the learning experience of their classmates. Value: annual income.
**OSOTF**

**Delmar and Audrey Cobban Bursary**
Delmar and Audrey Cobban have established a fund, the annual income of which is awarded to a student entering a Master of Information Studies degree program. The award is given on the basis of financial need and academic merit. Application forms are available from the Office of the Registrar at the Faculty of Information Studies.
**OSOTF**

**The Maurice Cody Research Fellowship**
Established by students and friends of the late Henry Maurice Cody, this fellowship is awarded to a full-time graduate student enrolled in the Departments of History, Political Science, or Economics. Value: available income.

**Council on Friendship Fund**
Awarded to a graduate student in Social Work who intends to specialize in studies related to Canadian newcomers and their problems as new Canadians. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**John Crispo Graduate Award**
Friends and colleagues of John Crispo have established an endowment in recognition of the role he played in founding the Centre for Industrial Relations in 1965 and serving as Director until 1975. The annual income will be awarded, on the basis of academic merit and financial need, to one or more graduate students en-

rolled at the centre. Value: approximately $4,000.
**OSOTF**

**Daniel and Elizabeth Damov Graduate Fellowship**
Awarded to graduate student(s) affiliated with the Centre for Russian and East European Studies, with preference given to students studying Bulgaria and the Balkan region.

**The Eleanor Frances Day Award**
Awarded to M.S.W. or Ph.D. program students demonstrating financial need. Apply to the Faculty of Social Work, Office of Student Services and Records. Value: annual income.

**V. A. De Luca Memorial Fellowship**
In memory of Professor V. A. De Luca, family, friends, and colleagues have generously endowed funds for a fellowship for award to one or more full-time graduate students in the Department of English. Value: annual income.

**Ken Dean Memorial Fellowship**
Awarded, on the basis of financial need, to a gifted performer enrolled in the graduate music program in performance or the advanced certificate program. Candidates must demonstrate outstanding ability and promise in the area of jazz. When the Master in Jazz Performance degree has received approval, the fellowship will be awarded to a student in the program. Apply to the Faculty of Music. Value: annual income.

**Dean's Discretionary Graduate Fellowships Fund in Music**
Graduate fellowships awarded at the discretion of the Dean of the Faculty of Music. Apply to the Faculty of Music. Value: annual income.

**Dean's Fellowship**
For award, on the basis of financial need, to new students in the Rotman School of Management who also have leadership potential demonstrated through work or extracurricular activities and high academic performance demonstrated in undergraduate work and GMAT scores. Value: annual income.
**OSOTF**

**Dean's Scholarship**
This scholarship is awarded, on the basis of financial need, to a student entering the joint LL.B./M.B.A. program. Value: annual income.
**OSOTF**

**Professor Laurent-G. Denis Memorial Scholarship**
Awarded to a student in any program of the Faculty of Information Studies who will have completed at least four half-courses before taking up the award and will be a full-time student during the tenure of the award. Application must be made to the Faculty of Information Studies by December 15. Value: annual income.

**Robert Deshman Memorial Fund**
Awarded annually to a graduate student in the Department of Fine Art. Financial need and academic merit are considered. Precedence is given to students studying Medieval Art and Architecture. Apply to the Chair, Department of Fine Art. Value: annual income.
**OSOTF**

**Victor Di Bello Graduate Scholarship**
Pro Arte Orchestra and friends of Victor Di Bello have established a fellowship for award annually to a gifted Faculty of Music graduate student on any stringed instrument. Value: annual income.

**Arthur Dickson and George Street Award**
Recipients must be first year students in the Faculty of Social Work studying the social aspects of HIV/AIDS. Consideration will be given to students who are infected or affected by HIV/AIDS and/or have volunteered in the gay community or in palliative care.
**OSOTF**

**Ilona Diener Fund**
Awarded to graduate students participating in the University of Toronto-Central European University Graduate Student Exchange Program.

**Doctoral Fellowship**
For award, on the basis of financial need, to the most outstanding and promising applicants of the Rotman School of Management's Ph.D. program.
Value: annual income.
**OSOTF**

**Doctoral Thesis Prize in French**
Valued at approximately $100, this prize is awarded annually to the doctoral candidate who submits the best Ph.D. thesis in the Graduate Department of French.

**Helen Jeannette Dow Fellowship in Art History**
Marguerite Ruth Dow has endowed funds to provide an annual award to a graduate student entering a program in the Department of History

of Art. Academic merit and financial need are considered. Preference will be given to a student who has graduated from University College. Value: annual income.

**Kathy Duffy Memorial Scholarship**
Accenture has generously endowed funds, the annual income of which provides a scholarship to a female student at the Rotman School of Management. Based on financial need and academic merit.
**OSOTF**

**Dan Dunlop Prize/Dunlop Farrow Prize**
An annual donation of $2,500 is awarded to a student completing the second year of the Master of Architecture program who exhibits a potential for leadership in the field and achieves excellence in studio courses taken in the first two years.

**Gerard Dunnhaupt Fellowship Award**
To assist one doctoral student whose research into European music prior to 1800 would be improved if the opportunity to travel to Europe was available. Apply to the Dean of the Faculty of Music. Value: $1,500 a year.

**The Howard Dunnington-Grubb Admission Scholarship**
Awarded to a candidate applying to the Master of Landscape Architecture program based on ranking of submission by the Admissions Committee.

**Laszlo T. Duska Memorial Fellowship**
Awarded by the Council of the Faculty of Arts and Science to academically excellent graduate students who have taken at least one course related to Hungarian studies. Eligible students will be drawn from the Department of Slavic Languages and Literatures or other graduate units where research is focused on Hungarian studies. Application not required. Value: annual income.

**EAS Graduate Research Scholarship**
Various donors have contributed to a fund, the annual income of which is awarded to a graduate student in the Department of East Asian Studies.

**The E. J. U. Award**
Funds have been donated to provide an annual award of $3,400 to a registered M.S.W. student on the basis of financial need. Upon completion of enrolment, students may apply by September 15 to the Faculty of Social Work, Office of Student Services and Records.
**OSOTF**

**Earhart Foundation Fellowships**
Awarded to a graduate student in Political Science.

**The Eaton Graduate Fellowship**
For award on the basis of financial need to a master's or doctoral student enrolled in the Faculty of Music. Performance excellence and academic standing will also be considered. Value: annual income.
**OSOTF**

**Department of Economics Student Award**
Awarded on the basis of financial need and high academic standing to a graduate student in the Department of Economics. Value: annual income.
**OSOTF**

**Veneta and James Elieff Fellowship**
Awarded on the basis of academic merit to graduate students affiliated with the Centre for Russian and East European Studies conducting research on Bulgaria.

**Ernst and Young Scholarship Endowment Fund**
Awarded to students in the Master of Management & Professional Accounting Program. Conditions to be determined.

**Victor Feldbrill National Graduate Fellowship in Orchestral Conducting**
Awarded to a student in the graduate orchestral conducting program or the Advanced Certificate of Music Program. It will be given to one student a year who demonstrates the talent and the motivation to take possession of many of the prestigious podiums around the world. As his schedule permits him to be in Toronto, Victor Feldbrill will coach and mentor the young student conductor. The University of Toronto Resident Orchestra Conductor Raffi Armenian will also meet once a week with the recipient and there will be opportunities for the student to conduct at the podium of the UTSO, UT Chamber and UT Opera rehearsals. Preference will be given to a Canadian student.

**Zelda Feldbrill Memorial Award**
Awarded on the basis of financial need to a full-time graduate student enrolled at the Faculty of Social Work with a demonstrated interest in working with families, children, and adolescents. Apply to the Faculty of Social Work, Office of Student Services and Records. Value: annual income
**OSOTF**

**Mary Jane Felker Fellowship**
Established through a bequest from the late Mrs. Felker of Guelph, Ontario, the fellowship is open to graduates of any recognized university who propose to undertake full-time graduate work in business administration leading to the M.B.A. degree. Annual value: approximately $2,000.

**Charles Fine Memorial Bursary**
Awarded to a student enrolled in the first year of Social Work, with preference given to candidates in the Social Group Work showing special interest in emotionally disturbed youth or children. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**FIPA Graduate Fellowship in Indian Classical Music**
Awarded to an outstanding Faculty of Music student in the Graduate Program or Advanced Certificate Program pursuing the study and/or performance of Indian Classical Music. Application not required. Value: annual income.

**Augustine Fitzgerald Fellowship in French**
The income from the Augustine Fitzgerald Fund provides a scholarship awarded annually to a Canadian-born, English-speaking graduate student, whose native tongue is not French, for further study of or research in the French language or French literature. Value: approximately $3,000.

**FLIS 60th Anniversary Bursary**
Alumni and friends of the Faculty of Information Studies have established a bursary available to a full-time student or students in any master's program in the Faculty. The bursary is offered annually for the spring term on the basis of financial need and academic merit. Apply to the Faculty by November1. Value: annual income.
**OSOTF**

**James D. Fleck Student Entrance Award**
Entrance award based on three criteria: need, merit, and employment in the not-for-profit sector, with preference for those in charitable arts organizations and community and social services. Preference given to a candidate who intends to remain employed in the not-for-profit sector, particularly in charitable arts and community and social services. Applicants must have demonstrated need for financial assistance on their admissions application.

**Rudolf and Viera Frastacky Graduate Fellowship**
This award will be given to a student affiliated with the Centre for Russian and East European Studies.
**OSOTF**

**Rudolf and Viera Frastacky Fellowship**
Awarded on the basis of academic merit to a student affiliated with the Centre for Russian and East European Studies.

**Mary Freeman Scholarship**
Annually awarded to a student entering the Master of Information Studies degree program in the Library and Information Science stream. Awarded on the basis of financial need and academic merit. Application forms are available from the Office of the Registrar, Faculty of Information Studies.
**OSOTF**

**Department of French Graduate Scholarships**
Awarded by the Faculty of Arts and Science, on the recommendation of the Department of French, to graduate students with outstanding achievements entering particular areas of research in a Ph.D. program. Eligible students are drawn from the Department of French. A total of seven scholarships are available. Application not required. Value: variable.

**Barbara Frum Memorial Award in Canadian Scholarship**
Awarded to an entering graduate student in the Faculty of Arts and Science in a field of study related to Canada. Value: annual income.

**Garden Club of Toronto Scholarship**
Awarded to a student concluding the second year of the Master of Landscape Architecture program who has attained the highest academic average in the mandatory Plant Ecology courses.

**Joint Initiative in German and European Studies Graduate Student Fellowships and Travel Awards**
Awards to support advanced graduate student dissertation projects in German and European studies. Financial need and academic merit will be considered.

**The Samuel Godfrey — Y.M. & Y.W.H.A. Memorial Bursary**
Awarded to a graduate of a recognized Canadian university specializing in work with indi-

viduals, families and small groups and who is enrolled as a M.S.W. degree candidate. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**Emilio Goggio Scholarship (Graduate)**
In memory of Professor Emilio Goggio, his sons have established an annual award for an outstanding full-time student in a master's or doctoral program in the Department of Italian Studies. Value: approximately $600.
**OSOTF**

**Grace Safeer Goldberg Award**
Awarded on the basis of financial need to a second year M.S.W. student, with a minimum B average, concentrating on direct practice.
**OSOTF**

**The Gordon Family Graduate Award in Gerontological Social Work**
Awarded to a second-year M.S.W. student or a Ph.D. student who demonstrates dedication to the field of gerontological social work.
**OSOTF**

**Thomas A. Goudge Memorial Fellowship in Philosophy**
An admission scholarship is awarded to an outstanding student commencing graduate studies in philosophy. Preference is given to Canadian citizens and permanent residents. Financial need and academic merit are considered. Application not required. Value: annual income.

**Graditude Campaign Bursary**
Master of Social Work students from the graduating class annually donate funds to provide a bursary for award to one or more M.S.W. students on the basis of financial need. Preference will be given to candidates with excessive child care demands. Value: academic tuition fees, based on the domestic student fee level or less depending on the funds available.

**Graduate Fellowships in Capital Markets Research**
Awarded to a graduate student undertaking advanced research and study in the area of capital markets research. Awarded on the recommendation of the Associate Dean, Graduate Studies, Faculty of Law. Value: annual income.

**Graduate Fellowships in Law and Innovation**
Awarded to a graduate student undertaking advanced research and study in the area of law and innovation at the Faculty of Law's Centre for Innovation. Apply to the Associate Dean of Graduate Studies, Faculty of Law. Value: annual income.

**Graduate Geography and Planning Student Society (GGAPSS)**
Students, alumni, family friends, and colleagues of the graduate programs in geography and planning have established a fund, the income of which provides an annual award to at least one graduate student on the basis of financial need.
**OSOTF**

**Graduate Women's Studies Entrance Prize**
Kay Armatage and others have established a fund, the annual income of which is given to an incoming graduate student in the Collaborative Program in Women's Studies. Financial need and academic excellence may be considered.

**Graduating Class Award**
The annual income from funds generously raised by the M.S.W class of 1997 is available to an M.S.W. student on the basis of financial need.
**OSOTF**

**Ginny Medland Green Graduate Fellowship in Music**
Awarded to one outstanding student in the Graduate Studies or Advanced Certificate program.

**The Guardiaregia Club and Friends Graduate Fellowship in Memory of Nicola Mastrogiovanni and Nicola Pallotta in Italian Studies**
Awarded to a graduate student in the Department of Italian Studies on the basis of academic merit and financial need. Application not required. Value: annual income.

**Alberto Guerrero Graduate Scholarship**
Awarded to an outstanding pianist in the graduate program in Performance or the Advanced Certificate Program with a demonstrated interest in piano pedagogy. Apply through the Faculty of Music. Value: annual income.

**Morely Gunderson Prize in Industrial Relations**
A plaque and an announcement in the *Globe and Mail* are presented to a student or graduate of the Centre for Industrial Relations. The award recognizes outstanding accomplishments and contributions to the M.A. or Ph.D. programs. Submit nominations to the Director, Centre for Industrial Relations.

**John Haddad Scholarship**
Awarded to a student entering the second year of the master's program in Social Work. Student must demonstrate interest and commitment to the field of mental retardation or the developmentally handicapped. Apply to the Faculty of Social Work. Value: annual income.

**Hain Graduate Fellowship in the Department of Philosophy**
Awarded on the basis of academic merit to a student in any sub-discipline of Philosophy.

**Ralph and Roz Halbert Connaught–Fulbright Graduate Fellowship in the Centre for the Study of the United States**
Awarded to a University of Toronto student travelling to the United States as a Fulbright scholar, or to an American student studying at the University of Toronto as a Fulbright scholar. Eligible students must meet the qualifications and must apply to the Canada–US Fulbright Program to become a Fulbright scholar. The annual income of the endowment is awarded on the recommendation of the Director of the Centre for the Study of the United States. Web: www.usembassycanada.gov/fulbrigh.htm.

**Dmytro and Natalia Haluszka Scholarship in Ukrainian Studies**
The Chair of the Ukrainian Studies Foundation has established a fund, the income of which provides an annual award to a graduate student enrolled in a program of courses in Ukrainian studies. The recipient must demonstrate financial need and academic merit. Apply to the Faculty of Arts and Science Student Awards Selection Committee by April 15 for the upcoming fall/winter session and by October 15 for the upcoming spring/summer session.
**OSOTF**

**Lisa Hamann Memorial Award**
Awarded to a full-time, second-year female M.B.A. student. Must have strong leadership skills, be involved in extracurricular activities, be of good academic standing, have a demonstrated interest in international studies, and be legally eligible to work in Canada upon graduation. Value: annual income.

**The Robert F. Harney Graduate Research Grants in Ethnic, Immigration, and Pluralism Studies**
Awarded to U of T graduate students conducting research related to ethnic, immigration, and pluralism studies. The award supports a specific research project undertaken to meet the requirements of a graduate degree program, normally an M.A. or Ph.D. thesis. Applications should include a description of research, a budget, and a letter of support from a research supervisor. Contact the Ethnic and Pluralism Studies Collaborative Program at ethplur@chass.utoronto.ca or phone (416) 978-4783. Deadlines: September 30 and April 30. Value: up to $2000/academic year. Proposals for larger amounts may be considered, depending on available funding.

**Douglas G. Hartle Fellowship**
Awarded on the basis of academic excellence to senior graduate students conducting research in public economics or another public policy field.

**The G. R. Heffernan Fellowship**
Awards totalling up to $1,500 are made on the basis of academic performance and financial need to a full-time student in the Master of Industrial Relations program who intends to specialize in the area of Human Resource Management and Organizational Behaviour.

**The Helleiner Graduate Fellowship**
Awarded on the basis of academic excellence to a doctoral student in Economic Development or International Economics. Value: annual income.

**Dr. Daniel G. Hill, Sr. Scholarship**
Various donors have endowed funds to provide an annual scholarship to honour the work of Dr. Dan Hill, Sr. It is awarded to a student enrolled in the M.S.W. program, with consideration given to the recruitment, support, and retention of black students. Financial need, academic excellence, and promise will be considered. Apply by September 15 to the Faculty of Social Work.
**OSOTF**

**Travelling Fellowship for History Graduate Students**
For award, on the basis of financial need, to a doctoral student in the Department of History. The award is given to a student who requires financial support to travel to conduct research or present a paper at an academic conference. Apply to the Coordinator of Graduate Studies, History Department. Value: annual income.

**Samuel Hollander Graduate Award**
The U of T Press, the Department of Economics and others have generously endowed funds to offer an annual award to the most distinguished Ph.D. student in the Department of Economics. Preference is given to students in

History of Economic thought. Value: annual income.

**Houlden & Morawetz Graduate Scholarship**
Awarded to a graduate student in the Graduate Department of Law on the basis of financial need and academic excellence.

**Howarth–Wright Graduate Fellowship**
Awarded to a Master of Architecture student following the second or third year. The award is offered on the basis of high academic achievement, interest in the work of Frank Lloyd Wright, research skills in architectural history, and the overall strength of the research proposal. The recipient will publicly present research results at the Faculty and be expected to pursue publication of the research. Apply to the Dean of the Faculty of Architecture, Landscape, and Design by submitting a research proposal on the work of Frank Lloyd Wright. Deadline: last day of the winter session. Value: annual income.

**W. C. G. Howland Prize**
Estates of W.C.G. Howland have provided funds for award to the most outstanding performance in the LL.M. program. Value: annual income.

**Hudson's Bay Charitable Foundation Award**
Awarded to a student in the second year of the Master of Information Studies program specializing in Archival Studies. The award winner's annual practicum will be carried out at the Hudson's Bay Company. Value: annual income.

**Anne Hume Bursary**
For a female M.I.S. student resident in the City of Windsor or County of Essex. Value: $150.

**Hungarian Chamber of Commerce Graduate Exchange Fund**
Awarded, on the basis of academic merit, to graduate students participating in the exchange program between the University of Toronto and Central European University. The award enables students to continue their studies. Eligible candidates include students from one university visiting the other university for one session. Apply to the Director of the Centre for Russian and East European Studies. Value: annual income.

**Hungarian Helicon Foundation (Ontario) Graduate Award**
Awarded to a graduate student pursuing advanced studies in any aspect of Hungarian studies. Recipient is selected on the basis of academic excellence and financial need. Application consists of a nomination from the student's graduate unit, a letter of recommendation, transcripts, a research proposal from the applicant, and an OSOTF financial needs assessment form. Deadline: end of April. Value: annual income.
**OSOTF**

**Florence Hutner Bursary**
Awarded, on the basis of financial need, to a student in the Master of Social Work degree program in the Community Practice Sequence. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**India–Canada Association Scholarship**
The India–Canada Association has generously endowed funds to provide an annual award to one or more full-time graduate students at the University of Toronto engaged in research in the field of South Asian studies. Preference will be given to candidates whose research activities require travel to India. Application information is available in the early spring from the Director of South Asian Studies. Value: annual income.

**India's 50th Anniversary Graduate Prize**
The Consulate of India has generously endowed funds to provide an annual award to a graduate student enrolled in the social sciences or humanities. Study or research must be focused on India. Eligibility is based on academic merit and financial need. Apply by April 1 to the Centre for South Asian Studies. Value: annual income.

**Professor Howard H. Irving and Family Award**
Awarded to a student in the combined J.D./M.S.W. program with an interest in family mediation, family law, or family counselling. Merit will be considered.

**The Elmer Iseler Fellowships**
Awarded, on the basis of financial need, to graduate students in the choral conducting program at the Faculty of Music.

**Italian–Canadian Immigrant Graduate Fellowship in Italian Studies**
Awarded to a graduate student in the Department of Italian Studies on the basis of academic merit and on past volunteer contributions to the Italian community. Financial need may also be considered. Apply to the Department of Italian Studies. Value: annual income.

**The Zbigniew Jarkiewicz Memorial Scholarship Fund**
The Zbigniew Jarkiewicz Memorial Scholarship Fund provides an annual income of $400 to $500 awarded to a full-time graduate student registered at the M.A. or Ph.D. level in the field of classics or classical archaeology.

**The Pandit Jasraj Endowment Award**
Through the support of the Foundation for the Indian Performing Arts, an award has been established for a graduate student studying East Indian Classical Music at the Faculty of Music.

**Diljit and Gulshan Juneja Award for South Asian Studies**
For award to a master's or doctoral student in any department or faculty in the University whose course program or research is concentrated in the area of South Asian Studies. The award is made on the basis of financial need. Academic merit will also be considered. Value: annual income.
**OSOTF**

**Ken Karpiak Memorial Scholarship**
Various donors have contributed to a fund that provides an annual scholarship to a student in the Faculty of Architecture, Landscape, and Design. Awarded on the basis of ranking by the Admissions Selection Committee. Value: 2/3 of annual income.

**Katie Keeler French Language Fellowships**
Awarded to a student pursing a program of study related to the French language. Financial need and academic merit will be considered.

**Katie Keeler German Language Fellowships**
Recipients must be pursuing a program of study related to the German language. Financial need and academic merit will be considered.
**OSOTF**

**Edward B. Kernaghan Fellowship**
This fellowship was established to encourage graduate work in economics, with special reference to finance and financial institutions. Value: annual income.

**Joseph Kerzner Award**
For award to an accounting student in the Rotman School of Management on the basis of financial need. Academic merit will also be considered. Value: annual income.
**OSOTF**

**W. L. Mackenzie King Fellowship in International Relations**
Established by friends of the late Rt. Hon. W. L. Mackenzie King, this fellowship is designed to encourage research in Canadian External Affairs. Value: available income. Offered in alternate years.

**Andrew Alexander Kinghorn Award**
Awarded to the student completing the first year of the M.B.A. program or diploma program with the highest academic standing.

**Andrew Alexander Kinghorn Fellowship**
The estate of the late Andrew Alexander Kinghorn provides an annual fellowship to a graduate student(s) with the highest grade point average(s) undertaking full-time studies in business administration. Value: annual income.

**Leonore V. Kinghorn Scholarship**
The estate of the late Andrew Alexander Kinghorn provides annual fellowships in varying amounts up to approximately $8,000 in the Department of History of Art. Preference is given to students who have passed their Ph.D. comprehensive exams, to permit travel and research on an approved itinerary. Apply to the Graduate Coordinator of History of Art.

**Martin Klein Fellowship Fund for Students from Africa**
Awarded to graduate students from Africa based on academic excellence and need for assistance with travel costs associated with research, academic conferences, and/or course of study. Eligible students will be drawn from the Department of History. Applications should be sent to the Department of History, Sidney Smith Hall, Room 2074. Value: annual income.

**Israel and Golda Koschitzky Fellowship in Jewish Studies**
Through a generous gift from the Israel Koschitzky Family Foundation, a scholarship has been established for a graduate student enrolled in a program related to Jewish studies. Apply by February 1 to the Director of the Jewish Studies Program, University College, Room 314.

**Greta Kraus Graduate Fellowship**
Awarded to an outstanding voice student entering the graduate program in Performance/Voice or the Advanced Certificate in Performance. Apply through the Faculty of Music. Value: annual income.

**Karel Kukula and Family Graduate Award**
Awarded to a student researching Czech history, society, and culture on the Czechs' interaction with the other peoples of Central Europe. Based on financial need, and academic merit.

**Richard and Bobbie Kunreuther Scholarship**
Awarded to a M.S.W. or Ph.D. student at the Faculty of Social Work concentrating on direct practice in child and family. Financial need and merit will be considered.

**Lancaster House Graduate Award**
Jeffrey Sack of Lancaster House Publishing has endowed funds to provide an award for one or more full-time graduate students at the Centre for Industrial Relations. The annual income of the endowment will be awarded on the basis of academic performance and financial need. Value: approximately $3,700.
**OSOTF**

**Landscape Architecture Endowment Scholarship**
Awarded for excellence on the recommendation of the Faculty of Architecture, Landscape, and Design. The award is offered to two students, one completing the first year and one completing the second year of the Master of Landscape Architecture program. Application not required. Value: annual income.

**J. Spencer Lanthier Award in Accounting**
Awarded to an M.B.A. student with a focus on Accounting.

**Doris Lau M.B.A. Fellowship in Finance**
Awarded to M.B.A. students on the basis of information contained in the student application to the M.B.A. program. Students must plan to major in and/or establish their careers in finance; they must show financial need. Value: annual income.

**Robert Law Fellowship in Legal Ethics**
Awarded annually to a graduate student(s) at the Faculty of Law with financial need demonstrating academic excellence and undertaking advanced research and study in the area of ethics and law. Recipients must be identified as having financial need. Value: annual income.

**The Clifford Leech Prize**
Friends and colleagues of Professor Clifford Leech have established a prize of $200 to be awarded annually for an outstanding Ph.D. thesis on a subject related to drama in either the Department of English or Graduate Centre for the Study of Drama.

**John Leyerle Bursary**
Friends and colleagues of Dr. John Leyerle have endowed funds to provide a bursary for award to one or more full-time graduate students enrolled in the Centre for Medieval Studies. Awards are made on the basis of financial need and academic excellence. Value: annual income.

**Department of Linguistics Graduate Award**
Awarded on the basis of departmental guidelines to a graduate student in the Department of Linguistics. Value: annual income.

**Department of Linguistics Graduate Fellowship**
Awarded on the basis of financial need to a graduate student in the Department of Linguistics. Value: annual income.
**OSOTF**

**George H. Locke Memorial Scholarship**
Awarded in alternate years to an M.I.S. student. Preference will be given to a student with previous working experience in a public library. Value: income from the fund.

**Part-Time M.A. History Award**
Awarded annually to a part-time M.A. student on the recommendation of the Department of History. All part-time M.A. students are eligible but preference will be given, when feasible, to incoming students and those with a special interest in studying nineteenth-century British history. Academic merit will also be considered in making the $1,000 award.

**M.M.P.A. Class of 1999 Scholarship**
Awarded to students in the Master of Management & Professional Accounting program based on academic standing and financial need.

**M.M.P.A. Class of 2000 Scholarship**
Awarded to students in the Master of Management & Professional Accounting program based on academic standing.

**M.M.P.A. Expendable Awards**
Awarded to students in the Master of Management & Professional Accounting program for academic achievement, leadership, standing on CMA exams and/or standing in case competitions.

**M.M.P.A. Faculty Scholarship**
Awarded to students in the Master of Management & Professional Accounting program. Conditions to be determined.

**M.S.W. Scholarship Fund**
Various donors have contributed to a fund, the annual income of which is awarded to an M.S.W. student on the basis of financial need. Apply to the Faculty of Social Work, Student Services.

**Caroline MacDonald Bursary**
Awarded to a student, preferably Oriental, who is proceeding to the second year of the M.S.W. program. Selection criteria include promise of leadership in Social Work, academic standing, and financial need.

**Agnes MacPhail Memorial Bursary**
Applicants must be female candidates eligible for admission to the Master of Social Work program. Consideration is given to personal character, suitability for work in the field of Correction and Penology, and financial need. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**C. B. Macpherson Dissertation Fellowship**
Through the generous donations of Professor F. Peers and other friends and colleagues of the late Professor C. B. Macpherson, an endowment has been established to provide an annual award to a graduate student in the Department of Political Science who has completed all non-thesis requirements for the Ph.D. and is actively engaged in dissertation research.

**The Ian D. Macpherson Award**
An award of approximately $1,500 has been established in memory of Ian D. Macpherson for a student registered in a master's program in planning whose work demonstrates both academic merit and practical problem-solving ability with respect to some aspect of planning. Apply in writing to Department of Geography.

**The John Macrory Fellowship**
The annual income from the estate of Mr. John Macrory provides a fellowship for award to a student enrolled in a Ph.D. or M.A. program in the humanities.

**Joy Maines Memorial Bursary**
Available to a student in either year of the M.S.W. program who is primarily interested in Social Policy, Social Planning, and Social Administration. The bursary is awarded on the basis of merit and financial need. Apply to the office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: $250.

**Rotman School of Management Alumni Association Fellowships**
The Association has endowed a fund which provides an annual award of at least $1,000 for outstanding students entering the M.B.A. program.

**Faculty of Management Alumni Entrance Scholarships**
Awarded to outstanding applicants entering the M.B.A. program.

**Manzu Scholarship**
The Italian Bankers' Association has donated funds for award to doctoral students in the Department of History of Art, with preference given to those studying the work of the contemporary Italian artist Giacomo Manzu.

**Patricia and Alan Marchment Graduate Student Travel Awards in History**
The Marchments have endowed a fund whose annual income is awarded to a student or students in the Department of History. Eligibility is based on financial need and academic merit. Funds will be used by graduate students travelling to conferences or for field based research. Apply to the Department of History at any time throughout the year.
**OSOTF**

**The Nathan Markus Fellowship**
In honour of Dr. Markus, a yearly award is available to a doctoral student at the University of Toronto. The award is based on high scholastic achievement, promise in conducting research, and an approved dissertation proposal in the field of gerontology. For further information or application, refer to the Dean of the Faculty of Social Work.

**Lorna Marshall Doctoral Fellowship in Social and Cultural Anthropology**
Lorna Marshall has endowed a fund, the income of which provides an annual award to a full-time doctoral student in social or cultural anthropology who has completed Examination II by March 31 in the year of the award. The award is to cover costs associated with the candidate's field work.

**Oscar J. Marshall Graduate Fellowship**
An endowment from the estate of Oscar Charles Joseph Marshall provides an award to a student graduating from the Geomatics/Land Information Systems program at Erindale College who has obtained the highest overall average in years III and IV and who will be enrolling in graduate studies in Geomatics/Land Information Systems at the University of Toronto.

**The Beverly & Emmerson Mascoll Graduate Scholarship**
Awarded to a black Canadian resident/citizen who is a student in the M.S.W. program demonstrating good performance and financial need.

**Joseph A. May Scholarship**
Family, friends, and colleagues of the late Professor Joseph A. May have endowed funds, the income of which provides an annual award, on the basis of financial need, to an outstanding graduate student who has approached the study of the following fields from a qualitative rather than a quantitative perspective: history and philosophy of geographic thought, historical geography, social and cultural geography, geography of Canada.
**OSOTF**

**Mamie May Graduate Fellowship in Performance**
Awarded to an outstanding student in the graduate program in Performance or the Advanced Certificate in Performance. Apply through the Faculty of Music. Value: annual income.

**Centre for Medieval Studies Thirteenth Anniversary Award**
Alumni and friends of the Centre for Medieval Studies have generously contributed to an award to provide annual income to one or more full-time graduate students enrolled in the Centre for Medieval Studies.
**OSOTF**

**A.Y. Elizabeth McCullough Scholarship**
The estate of A.Y. Elizabeth McCullough has established a scholarship for award annually to a student in the Faculty of Information Studies. The scholarship is given on the basis of financial need. Apply to the Faculty of Information Studies in the fall. Value: annual income.

**Margaret S. McCullough Scholarship in Canadian Historical Research**
The estate of the late Margaret Standish McCullough provides an annual scholarship for award to one or more full-time doctoral degree students in the Department of History, pursuing postgraduate work in Canadian historical research. Value: annual income.

**The Irene McDonald Bursary**
The estate of Irene McDonald provides for an annual award to a graduate student from the Faculty of Social Work. Value: annual income.

**The Graduate Anne McMaster Grant**
Awarded to a student in the Department of Geography and Program in Planning for costs such as departmental field trips and field courses. Awarded on the basis of financial need; academic merit may also be considered.

**The Graduate Anne McMaster OSOTF Award**
Awarded to a student in the Department of Geography and Program in Planning for costs such as departmental field trips and field courses. Financial need must be considered; academic merit may also be considered.
**OSOTF**

**Kenneth McNaught Fellowship in History**
Awarded to students in the Department of History with preference given to M.A. students studying Canadian History. Based on academic excellence and financial need.

**McPherson–Wells Scholarship in Health and Disability**
Funds have been endowed to provide an annual award of at least $500 to a registered student in the Faculty of Social Work with a demonstrated interest, ability, and commitment to the areas of health and/or disability. Upon completion of enrolment, students may apply by September 15 to the Faculty of Social Work, Office of Student Services and Records.
**OSOTF**

**Centre for Medieval Studies Alumni/ae Bursary**
Awarded on the basis of academic excellence and financial need to a student in the Centre for Medieval Studies.

**Noah Meltz Graduate Award**
Friends and colleagues of Noah M. Meltz have established an endowment in recognition of the role he played as Director of the Centre for Industrial Relations from 1975-1985. The annual income will be awarded on the basis of academic merit and financial need to one or more graduate students enrolled at the Centre. Value: approximately $4,000.
**OSOTF**

**Dr. Mercer Scholarship in Near Eastern or Islamic Studies**
This scholarship is awarded annually with preference being given to a candidate who proposes to take up work in or for the Near East under the Department of External Affairs of Canada. Value: approximately $500.

**Dorothy Milligan Bursary**
The estate of Dorothy Milligan provides for a fellowship for award to a student in the Faculty of Social Work on the basis of financial need. Value: variable.

**The Theodoros Mirkopoulos Fellowship in Composition**
Awarded on the basis of financial need to a graduate student demonstrating excellence in composition and general academic achievement. Apply to the Faculty of Music. Value: annual income.
**OSOTF**

**Mitsubishi Graduate Scholarship in Japanese Studies**
Through an annual donation from Mitsubishi Canada Limited, a $2,000 award is available to a full-time M.A. or Ph.D. student of the Department of East Asian Studies in Japanese studies or graduate students in professional faculties who intend to specialize in Japan-related subjects. Apply by April 30 to the graduate secretary of the Department of East Asian Studies.

**The Lorne T. Morgan Fellowship**
A fellowship has been established in memory of Professor Lorne T. Morgan who taught in the Department of Political Economy at the University of Toronto from 1930 to 1962. The income from the fund provides up to $1,000 for award annually to a full-time student in the Ph.D. program in Industrial Relations. M.I.R. students who have a strong research interest will also be considered. Preference will be given to those students who have completed undergraduate studies in economics, economics and political science, or commerce.
**OSOTF**

**T. George Mulligan Memorial Scholarship Fund**
Awarded to full-time M.B.A. students completing the first year of the M.B.A. program and planning to specialize in finance with an emphasis in financial analysis and/or portfolio management.

**National Bank Financial M.B.A. Fellowship**
Awarded to an M.B.A. student on the basis of academic merit and financial need. Value: annual income

**Marcia J. Nauratil Scholarship**
Awarded to a full-time doctoral student in the Faculty of Information Studies whose principal area of research is social issues in librarianship. The award will be made primarily on the basis of academic standing, although financial need may be considered. Value: income from the fund.

**Newman Scholarship**
Scholarships totalling $6,000 are awarded based on demonstrated leadership qualities and work experience. $2,000 worth of bursaries are also available based on the above and demonstrated financial need. Apply to the Faculty of Social Work, Office of Student Services. Deadline: September 15 for the fall session.

**The 1971 School of Library Science Scholarship**
Awarded annually to a student in the first year of the M.I.S. program with high academic standing. Value: income from the fund.

**Edward W. Nuffield Graduate Travel Fellowship**
Awarded to students pursuing a Ph.D. who must travel in order to conduct vital research.

**John O'Grady Graduate Award**
One or more awards are available from the annual income of an endowment established through the generous support of John O'Grady, a consultant specializing in labour market, human resources, and industrial relations issues. Graduate students at the Centre for Industrial Relations are eligible for the award which is based on academic merit and financial need. Value: approximately $3,700.
**OSOTF**

**Ontario Library Association/Grace Buller Aboriginal Student Scholarship**
Awarded to a student enrolled at the Faculty of Information Studies who has self-identified as Aboriginal.

**Dr. James Orbinski Fellowship in International Relations**
Awarded to a student in the Collaborative Masters in International Relations Program on the basis of academic merit. Financial need is also considered.

**Naomi Overend Fellowship in Human Rights**
Awarded to a full-time graduate student in the Faculty of Law with a focus on human rights.

**David and Lucile Packard Foundation Fund**
The David and Lucile Packard Foundation makes an annual donation to graduate students in the Faculty of Law from Africa, Asia, Central and Eastern Europe, the Middle East, or Latin America. Priority is given to students undertaking advanced research and study in the area of reproductive health law. Apply to the Associate Dean of Graduate Studies, Faculty of Law.

**Page + Steele Architects Planners Scholarship**
Awarded to a student concluding the third year of the Master of Architecture program based on excellence in the third year courses and higher as well as demonstrated potential for leadership in the practice of architecture.

**Beverly A. Parker Memorial Travel Award**
Awarded annually to a graduate student in the Department of Fine Art on the basis of financial need and high academic standing. Awarded on the recommendation of the Department Chair and restricted to travel support. Apply to the Chair, Department of Fine Art. Value: annual income.

**Irma and John Papesh Graduate Award**
Made possible by the kind donation of Mrs. Irma Papesh, this fellowship is open to students whose research focus includes Slavic studies, with a preference for Czech and Slovak studies.
**OSOTF**

**Para Paints Scholarship**
Awarded to a student completing the second year of the Master of Architecture program who has achieved the highest accumulative grades in the two design studios. Application not required. Value: $500.

**L. Victor Pathe Graduate Award**
Friends and colleagues of L. Victor Pathe have established an endowment in recognition of his contribution to labour–management cooperation. The annual income is awarded to one or more graduate students enrolled at the Centre for Industrial Relations on the basis of academic merit and financial need. Preference will be given to students with an interest in the area of innovative workplace practices. Value: approximately $3,700.
**OSOTF**

**Alexander C. Pathy**
One or two awards are made from the annual income of an endowment established through the generous support of Alexander C. Pathy who served the University of Toronto as Vice-President of Business Affairs, Vice-President of Human Resources, and as a professor of management and industrial relations. Graduate students at the Centre for Industrial Relations are eligible for the award which is based on academic merit and financial need. Value: approximately $3,700.
**OSOTF**

**David Perry Memorial Scholarship**
Various donors have established an annual award for an undergraduate or graduate student, on the basis of financial need, who has shown excellence in studying connections between research and performance in early drama (before 1642). Value: $250.
**OSOTF**

**Department of Philosophy Graduate Fellowship Fund**
Awarded to students in the Department of Philosophy on the basis of academic excellence.

**Arthur Plettner Graduate Fellowships**
Awarded to outstanding students in graduate programs at the Faculty of Music. Apply through the Faculty of Music. Value: annual income.

**Graduate Fellowship in the Department of Political Science**
Awarded annually to a master's or doctoral student in the Department of Political Science. The award is given on the basis of financial need and academic merit. Applications are not required unless used as a fellowship to aid in field research. Value: annual income.

**Vivienne Poy Chancellor's Fellowships in the Humanities and Social Sciences**
One Chancellor's Fellowship (valued at $20,000 in 1996) and one fellowship valued at the remainder of the annual income in excess of the funds applied to the Chancellor's Fellowship are available. The Chancellor's Fellowship and the Fellowship are awarded to master's or doctoral students in a humanities and /or social sciences discipline defined by the Faculty of Arts and Science.
**OSOTF**

**Viola Whitney Pratt Memorial Scholarship in English**
An endowment from the estate of Mildred Claire Pratt provides an annual award to a full-time graduate student in the Department of English who best exemplifies the qualities of Viola Whitney Pratt: enthusiasm, creative imagination, and humility combined with a love for the English language.
**OSOTF**

**Jane Prescott Memorial Prize**
Awarded to the student who achieves the highest standing in the course "Online Information Retrieval" on the recommendation of the Faculty of Information Studies. Applications must be made to the Faculty of Information Studies by November of the year prior to the distribution of the prize. Value: $100.

**ProScience Inc. Entrance Scholarship**
ProScience Inc. has donated funds to provide one award, based on financial need, to a student entering the M.B.A. program. Preference is given to disabled students. Value: annual income.
**OSOTF**

**Public Library Scholarship**
Awarded to a second year student in the master's program in Library and Information Science. Student must demonstrate a career interest in the public library system and show high academic standing. Apply to the Faculty of Information Studies by November of the year prior to the awarding of the scholarship. Value: annual income.

**Donald F. Putnam Graduate Scholarship**
Awarded, on the recommendation of the Department of Geography and Program in Planning, to graduate students with outstanding achievements entering or continuing in a research oriented degree program. The award is made to students concentrating on physical and environmental geography. Application not required. Value: annual income.

**Arlene Perly Rae Award**
Awarded on the basis of financial need to a M.S.W. or doctoral student who has demonstrated consistent academic achievement and has shown interest in the progress of the wider community through committee involvement, political activism, community service, or volunteerism.

**Bob Rae Graduate Award**
One or more awards are available to students in the Centre for Industrial Relations from the annual income of an endowment established through the generous support of friends and colleagues of Bob Rae. Value: approximately $8,000.
**OSOTF**

**The Rare Books and Manuscripts Award**
Awarded to a full-time Master of Information Studies student. The award is given to the student who ranks highest in the elective course "Rare Books and Manuscripts" and obtains a standing of at least A in that course and an average of not less than B+ in the program leading to the degree. Value: annual income.

**The Sandhya Ray Award for Indian Philosophy and Religion**
Dr. Ritendra Ray has endowed a fund, the annual income of which is awarded to a graduate student or students in good standing at the University of Toronto. The candidate(s) must demonstrate excellence in study or research in religion and/or the philosophy of India, preferably with special emphasis on humanism and spiritualism in ancient Indian philosophy. Eligible students may apply directly to the Centre for South Asian Studies or be recommended by a member of the academic staff of the University of Toronto. Award recipients are eligible to apply for the award in subsequent years.

**Rebanks Family Fellowship**
Awarded to a graduating student of the Museum Studies Program. The award allows the student to pursue an internship of up to 6 months at any small sized Canadian museum, gallery, or historic site (with at least 3–5 permanent employees). The institution must be a member of the Canadian Museums Association or an accredited Provincial Association. Application required. Value: annual income.

**Kathleen Reeves Memorial Award**
The Special Libraries Association and friends of the late Kathleen Reeves have established a fund, the annual income of which is awarded to a full-time or part-time Master of Information Studies student. The award is given to the student ranking highest in the elective course, "Management of Corporate and Other Special Information Centres", obtaining a standing of at least A in that course and an average of not less than B+ in the degree program.

**The Heather M. Reisman Prize in Organizational Behaviour**
Awarded to the student earning the highest standing in the mandatory Organizational Behaviour course in the M.B.A. program.

**The Department for the Study of Religion Student Award**
Awarded to a graduate student in the Centre for the Study of Religion to travel to a conference. Financial need and academic merit are considered. Value: annual income.
**OSOTF**

**Graduate Scholarship in Reproductive Rights (and Women's Rights) for Developing Southern Countries and Countries in Transition**
Awarded to students studying women's rights from developing southern countries and countries in transition.

**The Antony Roberts Graduate Fellowship**
The friends and family of Antony Roberts have established a fellowship for award to a gifted graduate student entering the Faculty of Music. Based on financial need. Apply through the Faculty of Music. Value: annual income.

**William Rock, Jr. Memorial Scholarship**
Awarded to a student completing the second year of the Master of Landscape Architecture program who has attained an outstanding academic average with emphasis on design. Application not required. Value: annual income.

**Mara Roebuck Memorial Graduate Prize in English**
Sandy Rotman has generously contributed to an endowed fund, the annual income of which is awarded to an M.A. student in the Department of English. Preference is given to a student with an undergraduate degree from Woodsworth College. If no suitable Woodsworth College graduate is identified in any one year, the Prize will be awarded to another deserving student regardless of the institution granting the undergraduate degree. Financial need and academic merit will be considered.

**Harvey Rorke Financial Foundation of Canada Ph.D. Fellowship**
Awarded to one or more Ph.D. students on the basis of academic merit, on the recommendation of the Ph.D. Program Director and the Associate Dean of the Rotman School of Management. Application not required. Value: annual income.

**Professor Albert Rose Student Emergency Bursary Fund**
May be awarded to a M.S.W. or Ph.D. student who is in need of financial assistance due to circumstances beyond their control.

**J. E. R. Ross Graduate Scholarship in Geomatics/Land Information Systems**
Through donations from Mrs. Margaret E. Ross, an annual award of $1,000 is available to a candidate entering the first year of full-time graduate studies in Geomatics/Land Information Systems at the University of Toronto. The candidate must be a graduate of U of T having completed the Geomatics/Land Information Systems program at Erindale College with a grade average of at least B+ in the final year of full-time undergraduate study.

**Helen J. Rotenberg Entrance Scholarship**
Awarded to an international and/or domestic M.B.A. student interested in pursuing degrees at the Rotman School. The recipient must demonstrate a creative and integrative approach to investment management.

**Royal Bank Graduate Fellowships in Applied Social Work Research**
Awarded for research internships in the Centre for Applied Social Research (CASR) for students currently enrolled in the Ph.D. program in the Faculty of Social Work. Value: annual income.
**OSOTF**

**Royal Bank Graduate Fellowships in Public and Economic Policy**
Graduate students undertaking a course of study in the area of public and economic policy are eligible for this award. Financial need and academic merit will be considered. Value: variable.
**OSOTF**

**David Savan Dissertation Prize**
The estate of David Savan has endowed funds to provide an award for the best dissertation over the past three years in the Department of Philosophy. The dissertations will be judged on the basis of their contribution to philosophy in general; the winning thesis will exemplify an exceptional mix of originality, rigour, and good writing.

**Scace Graduate Fellowship**
Awarded on the basis of financial need and academic merit to deserving students from South Africa or the United Kingdom who want to pursue graduate studies at the University of

Toronto. Recipients must be enrolled in a full-time graduate degree program. The award may be held for a maximum of four years, but is limited to a maximum of two years at the master's level. Application required or candidates must be identified as having financial need, based on the University's criteria. Value: annual income.
**OSOTF**

**Scace Graduate Fellowship in French**
Awarded by the Faculty of Arts and Science on the basis of financial need and academic excellence to students enrolled in full-time graduate studies in the Department of French. The award may be held for a maximum of four years, but is limited to a maximum of two years at the master's level. Application required or candidates must be identified as having financial need, based on the University's criteria. Value: annual income.
**OSOTF**

**Scace Graduate Fellowship in Opera**
Awarded on the basis of financial need to two singers in the master's program in Performance or Opera. Apply to the Faculty of Music. Value: annual income.
**OSOTF**

**Scace Graduate Fellowship in Tax Law**
Awarded on the basis of financial need and academic excellence to graduate students studying tax law. Apply to the Faculty of Law. Value: annual income.
**OSOTF**

**Benjamin Schlesinger Student Leadership Prize**
Awarded to a graduating student who has made a significant contribution to student life at the Faculty of Social Work. Students, faculty, and administrative staff may submit nominations for this prize. Deadline: March of the winter session. Value: $100.

**Schulich Award for Entrepreneurship**
The Nevada Capital Corporation Ltd. provides a $5,000 fellowship to a first year full-time M.B.A. student with strong entrepreneurial orientation. Apply to the Rotman School of Management.

**Scotia Capital Markets Bursary in Philosophy**
Recipients must be continuing their studies at the graduate level in the year following receipt of the award. Financial need and academic merit will be considered. Offered by Admissions and Awards on the recommendation of the Chair of the Department of Philosophy. Value: annual income.
**OSOTF**

**Samuel Selvon Graduate Award**
This award is offered to a graduate student who has an interest in and is willing to pursue work in any aspect of Indo–Caribbean study/research. Value: 40% of annual income.
**OSOTF**

**Janka Seydegart Scholarship in Feminist Studies**
Awarded on the basis of financial need to a graduate student enrolled in the Graduate Collaborative Women's Studies (GCWS) program. The scholarship is awarded in alternating fashion, one year to a student from the Faculty of Social Work and the next year to a student from any other GCWS collaborating graduate unit. Academic merit is considered. Apply to the Institute of Women's Studies and Gender Studies. Value: annual income.

**Ellen Sharf Prize**
Awarded to the student ranking highest in the course Research Collections in Canadiana in the Faculty of Information Studies.

**Irene Shapiro and David Shapiro Memorial Award**
Awarded to a student enrolled at the Faculty of Social Work who shows a special interest in research regarding depression and suicide.

**The Taras Shevchenko Memorial Scholarship**
Through the generosity of The Ukrainian Canadian Committee, Toronto Branch, this award is given annually to a student in Ukrainian language in the Department of Slavic Languages and Literatures. Value: approximately $1,000.

**Simmonds Graduate Fellowship in Memory of Sara Levi Godfrey**
Awarded to an outstanding piano student in the master's program in Performance or the Advanced Certificate in Performance. Apply to the Faculty of Music. Value: annual income.

**Sixtieth Anniversary Bursary**
The bursary is awarded annually on the basis of financial need to a full-time student in any master's program at the Faculty of Information Studies. The bursary is tenable during the second term (January–April). Applications are available during the fall term. Value: income from the fund.

**H. Gordon Skilling Fund**
Various donors have endowed a fund to honour H. Gordon Skilling. This fellowship is open to graduate students affiliated with the Centre for Russian and East European Studies who are pursuing advanced study of a country in the region covered by the Centre's mandate.
**OSOTF**

**J. A. D. Slemin Memorial Fellowship**
S. C. Johnson and Son Limited has made funds available for a $2,500 fellowship renewable in the second year in the Rotman School of Management, for award to a first-year M.B.A. student who plans to major in marketing. Preference to be given to students with a law background.

**R. M. Smith Memorial Fellowship in Classics**
The family and friends of R.M. Smith have established a fellowship for award, on the basis of academic merit, to a master's or doctoral student studying Classics. Value: annual income.
**OSOTF**

**Margaret Florence Lockhart Snowden Bursary**
The bursary is awarded on the basis of financial need and high academic achievement to an M.S.W. student. Apply to the Faculty of Social Work.
**OSOTF**

**The Irene So Scholarship**
Awarded to a registered M.S.W. student at the Faculty of Social Work on the basis of financial need. Apply to the Faculty of Social Work, Office of Student Services and Records. Value: annual income.

**Social Work Alumni Scholarship**
Awarded to a Master of Social Work candidate demonstrating outstanding ability in the first year of the M.S.W. program who enrols in the following session to continue in the second year. Application not required. Value: $500.

**Hattie Aileen Sommerville Scholarships**
Awarded on the basis of financial need to a female applicant entering the Master of Architecture program.

**The Benjamin Sonshine Urban Planning Scholarship**
Edward Sonshine has generously endowed funds, the income of which is awarded to a student entering the M.Sc.Pl. program. The recipient must have completed a major or specialist undergraduate program in geography. Academic merit and financial need are also considered. Value: annual income.
**OSOTF**

**Molly Spitzer Scholarship**
The annual income from a bequest of the late Mrs. Esther Spitzer provides an award to a graduate student enrolled in a degree program in the Centre for the Study of Religion whose principal subject of study is Judaism.

**The Stacey Graduate Fellowship in Canadian History**
In honour of University Professor Emeritus C. P. Stacey, his wife, Mrs. Helen Stacey, has made available two $3,000 fellowships for award to students in the Department of History. The candidates must be full-time students with first-class records entering a graduate degree program and intending to pursue studies in Canadian History at the University of Toronto.

**C. P. Stacey—Connaught Graduate Fellowship**
Awarded to graduate students with outstanding achievements entering a research-oriented degree program. Eligible students will be drawn from the Department of History. Value: annual income.

**Gerald Starr Memorial Scholarship**
This scholarship was established in memory of Gerald Starr who devoted his life to improving conditions for working people around the globe; it is a tribute to his career with the international Labor Organization in Geneva, Switzerland. Gerald Starr graduated from the University of Toronto with an undergraduate degree in commerce, and master's and Ph.D. degrees in economics. This annual scholarship is awarded on the basis of financial need and academic performance to a full-time graduate student enrolled at the Centre for Industrial Relations.
**OSOTF**

**Joseph S. Stauffer Foundation Graduate Fellowship**
Awarded to an outstanding student in any graduate program or the Advanced Certificate in Performance. Apply through the Faculty of Music. Value: annual income.

**Jan and Georgina Steinsky-Sihnoutka Graduate Award in Czech Studies**
For award, based on financial need, to a master's or doctoral student whose research focuses on the Czech Republic. The award is intended primarily for a student whose research focuses on the business and economic history of the Czech Republic. In the absence of an

eligible candidate, the award may also be given to a student whose research includes the history, linguistics, politics, law, sociology, anthropology, demography, or geography of the Czech Republic. Value: annual income.
**OSOTF**

**Nathan Strauss Graduate Fellowship in the Study of the Legal Profession and Social Change**
Awarded to a student enrolled in the LL.M. or S.J.D. program interested in studying the implications of social and/or technological change for the practice of law.

**Nathan Strauss Q.C. Essay Prize in Legal Ethics**
Awarded to a full-time student in the J.D. or other graduate program in the Faculty of Law who produces an essay of exceptional merit on any issue relating to legal ethics or professional conduct which is published or in the process of being published by the Faculty of Law Review or the University of Toronto Law Journal.

**Ernest Tauber Scholarship**
This award is offered to the best undergraduate or graduate student, in alternating years, on the recommendation of the Department of Slavic Languages and Literatures. Value: annual income.

**Duncan Taylor Memorial Award**
The Canadian Energy Research Institute and friends and colleagues of Mr. Duncan Taylor have endowed a fund to provide for an annual award to a second year M.B.A. student with high academic standing in the area of forecasting techniques and/or econometric methods.

**Alfred P. Tilbe Scholarship**
Awarded to a student completing the second year of the Master of Architecture program who achieves overall excellence and exhibits potential for leadership in the field. Awarded on the recommendation of the Faculty of Architecture, Landscape, and Design. Value: annual income.

**David Y. Timbrell Award**
For award to one full time graduate student in the field of music theory or musicology on the basis of financial need. Value: annual income.
**OSOTF**

**Alan Tonks Planning Scholarships**
Friends and colleagues of Alan Tonks, former Chairman of Metropolitan Toronto, have endowed funds for one to four students entering their second year of the M.Sc.Pl. program. The awards are based on academic merit and given to students concentrating their studies in the areas of urban planning, urban transportation, or urban infrastructure. Under exceptional circumstances, an award may be made to an incoming first year student. Financial need may also be considered.

**J. Michael Toohey Memorial Scholarship**
In memory of the former CEO of Amdahl Canada Ltd., a $2,500 scholarship is awarded annually to a continuing full-time M.B.A. student who, at the end of first year, has attained at least B+ academic standing; demonstrated outstanding leadership abilities; and made a significant, enriching contribution to the educational experience of his/her classmates. Apply to Awards Officer, Rotman School of Management.

**Toronto Area Archivists Group Award**
Awarded to a full-time or part-time student with the highest academic achievement in the Archival Studies stream of the M.I.St. program in the Faculty of Information Studies.

**Toronto Polish–Canadian Hall Award**
The award is offered biennially to undergraduate or graduate students in the Department of Slavic Languages and Literatures. Graduate students must be enrolled in a program leading to a doctorate in Polish literature or linguistics. Value: cumulative income.

**Jean Arnold Tory Bursary**
The estate of Kathleen Jean Tory has established an endowment, the income of which will provide a bursary to a graduate student in the Department of Italian Studies on the basis of financial need. Apply to the Graduate Office, Department of Italian Studies.

**Prudence Tracy Scholarship in Medieval Studies**
The University of Toronto Press and friends of Prudence Tracy have endowed a fund which provides $1,000, awarded on academic merit, for a full-time graduate student in the Centre for Medieval Studies.

**Trenwith and Galipeau French Linguistics Fellowship**
Awarded to a graduate student studying French linguistics. Academic merit is the primary criterion. Financial need may also be considered. Eligible students are selected from the Department of French. Application not required. Value: annual income.

**Trow Scholarship**
Awarded to the student entering the M.Arch. program, based on financial need and demonstrated talent and skills in computation and technical concerns.

**Dr. Roman Turko and Yaroslawa Turko Scholarship in Ukrainian Studies**
Funds from the estate of Yaroslawa Turko have been used to establish a fellowship for award to undergraduate or graduate students studying courses related to the Ukraine. The award is based on financial need; however, academic merit will also be considered. Value: annual income.
**OSOTF**

**William Osborn Twaits Fellowship**
The estate of the late William Osborn Twaits provides three or four awards of $2,500 to $3,000 to students undertaking full-time graduate work in the Rotman School of Management leading to a Ph.D. degree.

**Jane Tyerman Award**
Various donors have provided funds to offer an annual award to an Executive M.B.A. student in his/her final year who has contributed the most to the learning experience in his/her class in all aspects of the program.

**Tzu Chi Bursaries in Social Work**
The Buddhist Compassion Relief Tzu Chi Foundation has provided funds to award five bursaries annually, on the basis of financial need, to students enrolled in the Faculty of Social Work who are Canadian citizens or permanent residents, have at least a B average and who are active in the community or in a charitable organization. Apply to the Faculty of Social Work by November 1.

**The U of T – CEU Graduate Student Exchange Program**
Awarded to graduate students participating in an exchange program between the University of Toronto and Central European University. Students from one university visit the other for one semester to continue their studies. Application required. Value: annual income.

**The Ukrainian Heritage Association and Museum of Canada Award in Museum Studies**
An award is offered from the annual income of an endowment established by the Ukrainian Heritage Association and Museum of Canada to a student in the second year of the Museum Studies Program with a demonstrated research interest in some aspect of museums and history and/or culture of Ukrainians in Canada. Value: approximately $1,000.

**The Shirley Uldall Memorial Book Prize**
Awarded to a student with financial need in the Centre for South Asian Studies.

**University of Toronto Canadian Credit Management Foundation (CCMF) Fellowship**
For award, on the basis of financial need, to M.B.A. and Ph.D. students at the Rotman School of Management. Academic merit will also be considered. Value: annual income.
**OSOTF**

**University of Toronto Foundation Graduate Award**
Awarded on the basis of academic merit to senior doctoral students attending a conference to present a paper. Award is limited to senior doctoral students in the Humanities or Social Sciences (awarded annually on an alternating basis). Preference is given to students completing their degree in 5 years or less. Students receiving other conference travel awards are not eligible. Nominations should come from the applicant's graduate unit. Applicants must provide a statement to SGS outlining the purpose of the travel and a letter of support from their supervisor. Deadline: end of April. Approximate value: $600 or the cost of travel, whichever is less.

**University of Toronto Leon Pape Memorial Scholarship**
For award to a graduate student enrolled at the Rotman School of Management on the basis of financial need. Value: annual income.
**OSOTF**

**University of Toronto Women's Association**
Awarded on the basis of academic merit to a full-time U of T graduate student(s) pursuing doctoral work in the humanities. Preference will be given to a student(s) nearing dissertation completion. Applicants must be nominated by their graduate unit. Deadline: end of April. Approximate value: $500.

**Edward Johns Urwick Memorial Scholarship**
Awarded to a Social Work student, preferably from a rural community, on the basis of merit and financial need. Apply to the Office of the Coordinator of Admissions, Faculty of Social Work, after fall registration. Value: annual income.

**Arthur Vaile Memorial Graduate Prize in Jewish Studies**
Sandy Rotman has generously endowed funds to provide an annual award to graduate students in Jewish Studies. Financial need and academic merit are also considered.

**George and Helen Vari Fund**
Awarded, on the recommendation of the Director of the Centre for Russian and East European Studies, to graduate students participating in the University of Toronto – Central European University Graduate Student Exchange Program. Application required. Value: annual income.

**Verma Graduate Award**
One or more awards will be made from the annual income of an endowment established through the generous support of the following members of the Verma family: Mahendra, Yoga Shakti, Anil, Savita, Ranjan, Veena, Vikash, Eileen, Arvind, and Ashok. Graduate students at the Centre for Industrial Relations will be eligible for the award which will be based on academic merit and financial need. Value: approximately $5,000.
**OSOTF**

**Stephen Vickers Memorial Award**
Awarded to a graduate student in the Department of Fine Art. Financial need and academic merit are considered. Apply to the Chair, Department of Fine Art. Value: annual income.
**OSOTF**

**Richter Usher Vineberg Leadership Scholarship Endowment Fund**
Awarded to students in the Master of Management and Professional Accounting program who display leadership and academic achievement.

**Peter Walker First Year Planning Scholarship**
Mr. Peter Walker, Walker Nott, Dragicevic Associates Limited, alumni, family, friends, and colleagues of the graduate planning program have all contributed to establish this fellowship. For award annually to at least one student entering the second year of the M.Sc. (Planning) program. Value: annual income.
**OSOTF**

**Ward Bursary**
One or more bursaries are available to M.S.W. students in need of financial assistance. Awarded on the recommendation of the Council of the Faculty of Social Work. Application not required. Value: up to $600/academic year.

**Peter Warrian Graduate Award**
One or more awards will be made available from the annual income of an endowment established through the generous support of Peter Warrian. Graduate students at the Centre for Industrial Relations will be eligible for the award which is based on academic merit and financial need. Value: approximately $3,700.
**OSOTF**

**William Waters Award**
Provides emergency assistance to students enrolled in any of the Rotman School's Programs. The awards help recipients to meet unanticipated expenses that might otherwise prevent them from completing their programs. Individual awards vary in value based on the recipient's needs. Apply to the M.B.A., E.M.B.A, or Ph.D. programs office at any time during the academic year. Value: variable.
**OSOTF**

**Gordon M. Watson Entrance Award**
For award, on the basis of financial need, to a student entering the M.B.A. program who has successfully completed the Canadian securities course, or equivalent and has work experience in the field of finance, investment or securities analysis. Value: annual income.
**OSOTF**

**John Weinzweig Graduate Scholarship**
John Weinzweig and friends have endowed a fund in the Faculty of Music to provide an annual award to a graduating student in composition in the Mus.M. or Mus.Doc. program who exhibits extraordinary creative talent.

**Dalton Whitebread Scholarship Fund**
Provides graduate student support in the Faculty of Medicine on the basis of financial need. Prioritized by the Dean of Medicine. Apply to the Faculty of Medicine. Value: annual income.

**Lynn R. Williams Graduate Award**
An endowment has been established by the United Steelworkers of America in honour of the many contributions made to the trade union movement in Canada and abroad by Lynn R. Williams. Williams served the Steelworkers as Director for Ontario and Western Canada from 1973–1977, as International Secretary-Treasurer from 1977–1983, and as International President from 1983–1994. The award is based on academic merit, financial need, and the candidate's interest in working on issues of workplace fairness and social justice. Application and further information is available from the Centre for Industrial Relations. Value: approximately $3,750.
**OSOTF**

**H. W. Wilson Scholarship**
Awarded annually to one or two students in the first year of the M.I.S. program with high academic standing. Value: $1,000.

**The Hilda Wilson Fellowship in Technology, Information, and Culture**
This award is given to a graduate student whose work focuses on investigations begun by Harold Innis, Eric Havelock, Marshall McLuhan, and other Toronto scholars on the impact of technology on culture. Awarded by the Faculty of Information Studies. Value: annual income.
**OSOTF**

**Chancellor Rose Wolfe Scholarship and Native Student Fund**
Friends of Rose Wolfe have endowed a fund, the income of which provides two awards for native graduate students in the Faculty of Social Work. The award is based on proven scholastic ability; financial need may be taken into consideration. Apply to the Faculty of Social Work by September 15.

**Roger N. Wolff Prize**
Various donors have provided funds to offer an annual prize to a graduating M.B.A. student with the highest overall grade point average (GPA) in the academic year.

**Women in Capital Markets (WCM) Heather L. Main Memorial Scholarship**
Women in Capital Markets annually donates $5,000 to first year full-time M.B.A., or third year LL.B./M.B.A. female students available to work a summer internship and finishing their programs the following academic year. Apply through the Joseph L. Rotman School of Management.

**Women's Canadian Historical Society of Toronto Graduate Fellowships in Canadian History**
The Women's Canadian Historical Society has generously endowed funds to provide four annual awards of $2,500 to outstanding Canadians or permanent residents of Canada who enter the master's or doctoral program with a specialization in Canadian History in the Department of History at the University of Toronto.

**Graduate Scholarships in Women's Rights**
Awarded to graduate students in the Faculty of Law from Central or South America, Africa, the Middle East, East or South East Asia with an interest in women's rights. Apply to the Associate Dean, Graduate Studies at the Faculty of Law. Value: annual income.

**A. S. P. Woodhouse Prize**
The A.S.P. Woodhouse Prize is awarded annually to the writer of an outstanding thesis in the Department of English.

**Jean Eleanor Ross Woodsworth Bursary**
Family, friends, and admirers of the late Jean Woodsworth have endowed a fund to establish an award for a graduate student enrolled at the Faculty of Social Work with a demonstrated interest in the area of seniors, women, or Canadian social policy. Value: annual income.
**OSOTF**

**Institute for Work and Health Scholarship**
Awarded on the basis of financial need to one or more students at the Centre for Industrial Relations. Preference will be given to students who have demonstrated past interest in, or expect to pursue research in, the area of work and health. Academic merit will also be considered.

**Institute for Work and Health Scholarship**
This annual award has been established to assist graduate students studying at the Centre for Industrial Relations. Awarded on the basis of academic performance and financial need, preference will be given to students who have demonstrated past interest or expect to pursue work in the area of work and health.
**OSOTF**

**John Yamada Memorial Admission Scholarship and Study Abroad Bursary**
An admission scholarship of $500 is awarded to a student entering the first year of the Master of Architecture program on the basis of ranking by the Admissions Committee on behalf of the Faculty of Architecture, Landscape, and Design. A study abroad bursary is also awarded to student(s) seeking to participate in the Study Abroad program of the four-year Architecture program, based on financial need. Bursary Application Form required.

**The Yip Scholarship**
Awarded to an international Ph.D. student, preferably from China, who is studying at the Faculty of Social Work.

**George Paxton Young Memorial Prize in Philosophy**
Income from funds for this award, first established in 1894, will be distributed among those students in graduate programs in Philosophy who have read papers at philosophy conferences during the previous year.

**The Eberhard Zeidler Scholarship**
Awarded to a student concluding the first year of the Master of Architecture program on the basis of academic achievement in design in the first and second sessions of the first year.

## AWARDS IN THE MATHEMATICAL, PHYSICAL, BIOLOGICAL AND APPLIED SCIENCES

**Ontario Graduate Scholarships in Science and Technology (OGSST)**
The Ontario Graduate Scholarships in Science and Technology (OGSST) Program is designed to encourage excellence in science and technology graduate studies. The program is supported through funds provided by the Province of Ontario and raised by the University of Toronto in the form of private sector endowment. Each OGSST is named after the donor in recognition of the donor's generous support.

Each award has a value of $15,000 per year or $5,000 per session.

Applicants are required to submit the completed OGS application to the graduate units sponsoring the program (most departments in Physical and Life Sciences have OGSST). Check the deadline with the department sponsoring the award program.

Listed below are the OGSST at the University of Toronto. For brevity, the names are shortened from the “The Government of Ontario /John Doe Graduate Scholarship in Science and Technology” to the “John Doe Scholarship”. The following format is used:

***Department or Field of Study***
**Name of Award**

*Aerospace Engineering*
MD Robotics Graduate Scholarships

*Addiction Studies Collaborative Program*
H. David Archibald Graduate Scholarship

*Arthritis Centre*
Edward Dunlop Foundation Scholarship

*Astronomy*
Walter John Helm Graduate Scholarship
Ontario Graduate Scholarships (CIAR)

*Biology/Plant Molecular Biology*
Joan M. Coleman Scholarship

*Botany/Plant systematics*
Charles E. Eckenwalder Scholarship

*Botany/Zoology/Biology*
Dr. F. M. Hill Scholarship

*Centre for the Study of Pain*
Purdue Pharma Graduate Scholarships

*Chemical Engineering*
DuPont Canada Scholarship
Richard Quittenton Graduate Scholarship

*Chemical Engineering/Mechanical & Industrial Engineering*
William and Dorothy Palm Graduate Scholarship

*Chemistry*
F.E. Beamish Graduate Scholarships
Edwin Walter and Margery Warren Graduate Scholarship

*Chemistry (biological/medicinal chemistry)*
Dina Gordon Malkin Graduate Scholarship

*Chemistry (phosphine chemistry)*
Digital Specialty Chemicals Graduate Scholarship

*Chemistry (physical chemistry of materials)*
Martin Moskovits Graduate Scholarship

*Civil Engineering/Chemical Engineering/ Materials Science and Engineering*
Robert M. Smith Memorial Graduate Scholarship

*Civil Engineering*
Doherty Family Graduate Scholarship
William A. Doherty Scholarship
Alexander Drummond Scholarship
Paul and Suzana Price Scholarship

*Clinician-Scientist Training Program*
Medicine/Institute of Medical Science Graduate Scholarships
Dr. Arnie Aberman Graduate Scholarship

*Computer Science*
Ontario Graduate Scholarships in Science & Technology(Computer Science)

*Dentistry*
Seymour Bresalier Graduate Scholarship
Harry Dodick Graduate Scholarship

*Electrical and Computer Engineering*
Ricoh Canada Graduate Scholarship
Gordon Slemon Scholarship
Montrose Werry Scholarship

*Electrical Engineering/telecommunications*
ISS '97: World Telecommunications Congress Graduate Scholarship

*Electrical/Biomedical/Aerospace Engineering*
Thomas Noakes Graduate Scholarship
Victoria Noakes Graduate Scholarship

*Emergency Medicine/pre-hospital care*
Sunnybrook Prehospital Care Program Graduate Scholarship

*Engineering*
Denis Bouclin Graduate Scholarship
Class of 4T7 Graduate Scholarship
Lewfam Foundation Graduate Scholarship

*Forestry*
Alpa Lumber Inc. Graduate Scholarship
Buell Graduate Scholarship
Network Forest Products Limited: John and Rose Ziner Graduate Scholarships

*Geography/Physical Geography*
William G. Dean Graduate Scholarship

*Geography/Spatial analysis/applied GIS*
ESRI Canada Scholarship

*Geology*
Canadians Resident Abroad Foundation Graduate Scholarship
J. J. Fawcett Graduate Scholarship

*Geophysics*
Lamontagne Geophysics Graduate Scholarship

*Geophysics, Applied*
Harold O. Seigel Graduate Scholarship

*Haematology/oncology*
Dr. Dina Gordon Malkin

*Heart and Stroke/Richard Lewar Centre*
Heart and Stroke Foundation of Ontario Scholarship

*Immunology*
Aventis Pasteur Graduate Scholarship

*Institute of Medical Science/Psychiatry Research*
Gregory M. Brown Graduate Scholarship

*Laboratory Medicine and Pathobiology/arthritis research*
Canadian Arthritis Network Graduate Scholarship

*Mathematics*
Sir Lyman P. Duff Scholarship
Lloyd George Elliott Graduate Scholarship
Israel Halperin Scholarship
Steve Halperin Scholarship
Mathematics Alumni Scholarship

*Mechanical & Industrial Engineering/Civil Engineering/Chemical Engineering/Materials Science and Engineering*
John and Carol Northwood Graduate Scholarship

*Mechanical & Industrial Engineering*
Mart Liinve Graduate Scholarship

*Mechanical & Industrial Engineering*
Herbert A. Staneland Graduate Scholarship
Bez Tabarrok Memorial Graduate Scholarship

*Medical Biophysics*
Sunnybrook and Women's College Health Science Centre

*Medicine/Public Health/Health Policy, Management & Evaluation*
Medicine/Community Health

*Materials Science & Engineering*
Eleanor and Burnett Thall Graduate Scholarships

*Mineral Engineering*
George Gladstone Gilchrist Graduate Scholarship
Margery Sheridan Graduate Scholarship

*Nursing*
University of Toronto Foundation Graduate Fellowship
William and Dorothy Palm Graduate Scholarship

*Nursing/cardiac or stroke research*
Heart & Stroke Foundation of Ontario Graduate Scholarships

*Nursing/mental health*
Centre for Addiction and Mental Health Graduate Scholarship

*Obstetrics and Gynaecology*
Pharmacia Canada Inc./Genesis Research Foundation/OBGYN Graduate Scholarship

*Occupational Therapy or Surgery*
Patty Rigby & John Wedge Graduate Scholarship

*Orthopaedic Surgery*
David E. Hastings Graduate Scholarships

*Parkinson's disease research*
Grace Lumsden/Margaret Nichols Graduate Scholarship

*Parkinson's/neurodegenerative disease research*
Paul and Adelle Deacon Graduate Scholarship

*Pharmaceutical Sciences*
Merck Graduate Scholarship
Parke-Davis Graduate Scholarship

*Physics*
Reginald A. Blyth (Physics) Graduate Scholarship

*Physics/Applied Geophysics*
Reford Graduate Scholarship

*Physiology*
Genesis Research Foundation/Physiology Graduate Scholarships

*Physiology/Medicine*
Physiology/Medicine Graduate Scholarship

*Public Health Sciences*
Inge and Ralf Hoffmann Graduate Scholarship
Public Health Sciences Graduate Scholarships

*Public Health/ Biostatistics Program*
Aventis Pasteur Limited/John G. FitzGerald Graduate Scholarship

*Public Health/Health Administration in community mental health care delivery services*
Mary Beck Graduate Scholarship

*Statistics*
Reginald A. Blyth (Statistics) Graduate Scholarship

*Surgical Scientist Program*
Wellesley Surgeons Graduate Scholarships

*Urology/Surgical Scientist Program*
William K. Kerr Graduate Scholarship

*UTM/Biotechnology or related fields*
Pharmacia & Upjohn Graduate Scholarship

*Zoology*
Sherwin S. Desser Graduate Scholarship

**Alcan Fellowship**
This award is offered to any graduate student who has been admitted to the School of Graduate Studies at the University of Toronto in a master's/doctoral program in mathematics or pure or applied science. Preference will be given to those in the field of metallurgy or materials science. The award is valued at $10,000.

The student's academic record and other qualities which may lead to a successful career in industrial research will be taken into account.

Management of this program is provided by appropriate Alcan staff at either the Kingston Laboratories, or the Laboratoires de recherche appliquée et Centre de génie expérimental, of Alcan International Limitée, in Arvida. Alcan will contact the fellowship holder shortly after the appointment to arrange a mutually convenient visit to the laboratories to discuss the research.

**Alumni Graduate Studies Award**
Through a donation of the Pharmacy Alumni Association, an annual award of $5,000 is available to a Pharmacy graduate, preferably from a Canadian university, enrolled in the M.Sc. or Ph.D. in Pharmaceutical Sciences.

**American Women's Club of Toronto Scholarship in Speech Pathology**
Awarded, on the basis of academic excellence, to graduate students in the Faculty of Medicine, Department of Speech-Language Pathology, Master of Health Science program.

**Valerie Anderson Graduate Fellowship**
Awarded on the basis of academic merit (research and course work) to an outstanding graduate student in any sub-discipline of Botany. Any member of the Department of Botany may make nominations. The Department's Graduate Studies Committee selects the recipient. Value: annual income.

**Kathleen Arpin Doctoral Fellowship**
An admission award is offered, on the basis of academic merit, to a full-time, incoming doctoral student in the Department of Nursing Science. Application not required. Nomination is made by the Faculty of Nursing Awards Committee. Value: $2,500 or annual income.

**Mary Jane Ashley Award**
Friends and colleagues of Dr. Mary Jane Ashley have endowed funds, the income of which provides an award to a student undertaking a program of study in the Graduate Department of Public Health Sciences who is also enrolled in the Collaborative Program in Addiction Studies. Value: annual income.

**Carl E. Atwood Graduate Award in Zoology**
Family, friends, and colleagues of Professor Carl E. Atwood have established a scholarship for award to a master's or doctoral student studying in Zoology. Value: annual income.
**OSOTF**

**D. L. Bailey Award**
The family of Dr. D. L. Bailey has provided funds for a $100 annual award for the best Ph.D. proposal presentation by a graduate student in the Department of Botany.

**Bank of Montreal Fellowship in Medical Research**
Through a generous gift from the Mount Sinai Hospital Foundation of Toronto, a scholarship has been established for award to a student in the Faculty of Medicine on the basis of financial need. Value: annual income.
**OSOTF**

**Banting and Best Diabetes Centre—Novo Nordisk Award**
Awarded, on the basis of financial need, to students in the Faculty of Medicine who are affiliated with the Banting and Best Diabetes Centre. Value: variable
**OSOTF**

**Dr. P. K. Basu Fellowship in Corneal Research/Eye Bank Research**
Awarded on the basis of academic merit to graduate students pursuing studies in Corneal Research or Eye Banking. Apply to the Department of Ophthalmology. Value: annual income.

**Colin Hahnemann Bayley Fellowship in Chemical Engineering**
Awarded on the basis of academic excellence to an incoming graduate student.

**Colin Hahnemann Bayley Fellowship in Chemistry**
Awarded on the basis of academic excellence to an incoming graduate student.

**The F. E. Beamish Prizes**
Three prizes are awarded annually to students for outstanding graduate work, evidenced by a seminar or performance on examinations, in analytical chemistry, inorganic chemistry seminar, and physical chemistry seminar.

**Gwen Bell Endowment Fund**
Awarded to an occupational therapist entering the Department of Rehabilitation Science based on academic merit and area of research, preferably one that has an application for everyday practice.

**The Norman Bethune Awards**
Mr. Frederick H. Kahan has donated funds to establish two annual awards. One award is for a graduate student in the first two years of a Ph.D. program in microbiology, and the second award to microbiology residents in the first or second year microbiology program in the division of infectious diseases. Apply to Chair, Department of Molecular and Medical Genetics (microbiology program).

**Bio–Mega/Boehringer Ingelheim Prize**
Boehringer Ingelheim (Canada) Ltd./ Bio–Mega Research Division has sponsored an award for a third, fourth, or fifth year graduate student in the field of organic synthesis or bio-organic chemistry. Candidates must have research published; financial need may also be considered.
**OSOTF**

**Bloorview Children's Hospital Foundation Graduate Award**
An annual award of $1,500 is offered to a student who is entering the second year of a master's program in the Graduate Department of Nursing Science and has a clinical interest in physically disabled children and young people. Applications must be submitted by March 31 to the Graduate Department of Nursing Science.

**Blyth Fellowship**
Awarded to a student in the Department of Mathematics according to the terms and conditions of the University of Toronto Fellowship.

**Physics Blyth Fellowship**
Awarded to a student according to the terms and conditions of the University of Toronto Fellowship.

**Dr. Claire Bombardier Award for Excellence in Clinical Epidemiology**
Awarded to one graduate student enrolled in Clinical Epidemiology and Health Research, Department of Health Policy, Management and Evaluation, Faculty of Medicine, whose field research or written report has been judged as the best by the Clinical Epidemiology Executive Committee. The awardee will be encouraged to make an oral presentation at appropriate academic forums.

**The Ruth Bradshaw Award**
Colleagues and friends of Ruth Bradshaw, former Director of the Division of Physical Therapy, have established an award for a full-time student enrolled in the first year of the M.Sc. program in Rehabilitation Science. The recipient must have graduated from an undergraduate program in physical science and be eligible to practise in Canada. Apply to the Department of Rehabilitation Science by September 1.

**William Knapp Buckley Award**
The Ontario College of Pharmacists has endowed funds, the annual income of which is awarded to a graduate student in the Department of Pharmaceutical Sciences. Financial need and academic merit are considered.
**OSOTF**

**A. F. Buell Prize**
The prize is given to a full-time graduate student in the Faculty of Forestry on the basis of academic merit. Value: annual income.

**John Bunting Graduate Prize in Chemistry**
Awarded on the basis of financial need to a third or fourth year student in the field of physical organic or bio-organic chemistry. The student must have a research publication from their graduate studies.

**E. F. Burton Fellowship in Physics**
This fellowship is awarded annually to a Canadian citizen holding an M.A. or equivalent in physics from a Canadian university and who undertakes a Ph.D. program in Physics.

**L. Butler Graduate Prize in Zoology**
Through the generous donation of Dr. Leonard Butler an award, based on academic merit, is available to a master's or doctoral student in the department of Zoology.
**OSOTF**

**CRND Graduate Student Aid Endowment**
An anonymous donor has endowed funds for an annual award to be given to graduate students in CRND (Centre for Research in Neurodegenerative Disease.
**OSOTF**

**Margaret C. Cahoon Memorial Fellowship**
Awarded on the basis of academic merit to a graduate student in the Department of Nursing Science. Application not required. Nomination is made by the Faculty of Nursing Awards Committee. Value: annual income.

**Kristi Piia Callum Memorial Fellowship in Ovarian Cancer Research**
Awarded by the Faculty of Medicine on the basis of financial need and academic excellence. First preference is to graduate students conducting research in familial ovarian cancer. Second preference is to graduate students doing research in ovarian cancer. Value: annual income.
**OSOTF**

**Canada Life Assurance Company Graduate Fellowship in Medical Research**
Awarded on the basis of financial need to students supervised by University of Toronto faculty members at the Samuel Lunenfeld Research Institute at Mount Sinai Hospital. Value: variable.
**OSOTF**

**Canadian Almanac and Directory Publishing Book Award**
One or more awards are offered, on the basis of academic merit, to a graduate student(s) following a program in the Institute for Environmental Studies. Value: $500.

**Cardiovascular Sciences Collaborative Program Graduate Student Fund**
Through a donation of Pfizer Canada Inc., an annual award is available to a graduate student in the Cardiovascular Sciences Collaborative Program in need of financial assistance.
**OSOTF**

**Helen Carpenter Doctoral Fellowship**
An admission award offered to a full-time incoming doctoral student in the Graduate Department of Nursing Science on the basis of academic merit.

**C.A. Chant Fellowship**
Open to graduate students in the Department of Astronomy and Astrophysics. Value: $3,500 per term.

**W. Jack Christie Graduate Award in Ecology**
Family, friends, and colleagues of Jack Christie have endowed funds for award, on the basis of academic merit, to a master's or doctoral student studying in Zoology. Value: annual income.
**OSOTF**

**C.S. 'Rufus' Churcher Graduate Award in Zoology**
Dr. C.S. Churcher has provided funds for award annually to a graduate student studying comparative anatomy, functional morphology, adaptive and taxonomic evolution, paleontology, and

stratigraphic distribution or evolution of vertebrates in Zoology.
**OSOTF**

**Ciba Specialty Chemical, Inc. Graduate Student Award**
Ciba Specialty Chemicals, Inc. has endowed funds, the annual income of which is awarded to a graduate student in the Department of Chemistry. Preference is given to a student studying polymers and materials. The award is given on the basis of financial need and academic merit.

**Dr. Bernhard Cinader Graduate Scholarship in Immunology**
Awarded annually to a student in the Department of Immunology on the basis of academic merit and financial need.

**The Hardi Cinader Prize**
Friends and colleagues of Dr. H. Cinader have endowed a fund, the income of which provides an annual award to the graduate student completing the doctoral program in Immunology who best reflects the goals and life of Dr. Cinader—a broad scientific culture and an interest in both the sciences and the arts.

**City of Toronto Graduate Scholarship for Women in the Mathematics**
Awarded to a female student enrolled in a master's or doctoral program in mathematics on the basis of financial need, academic merit, and interest in issues related to women in mathematics.

**Dr. E. Aileen Clarke Prize**
Through an annual donation by the Ontario Cancer Treatment and Research Foundation, a prize of $1,500 is awarded on the basis of academic merit to a second year student in the Master of Science program in Epidemiology whose thesis topic is in the area of cancer epidemiology.

**Class of 5T2 Prize**
Awarded on the basis of academic merit in the Department of Forestry to a M. Sc. F. or a Ph.D. student specializing in the area of silviculture. Value: annual income.

**The Cleghorn Fellowship in Schizophrenia Research**
The Clarke Institute of Psychiatry Foundation has provided funds to award graduate students in Medical Science pursuing research in schizophrenia. Value: annual income.

**Clinician–Scientist Graduate Program in the Department of Anesthesia**
An award is offered annually, on the basis of financial need, to an M.Sc. or Ph.D. student in the clinician–scientist stream in the Department of Anesthesia. Value: annual income.
**OSOTF**

**The Randall Coates Epidemiology Prize**
Colleagues and friends of the late Dr. Randall Coates have endowed a fund, the income of which provides an annual award to a graduate student in the Graduate Department of Public Health Sciences (Epidemiology), studying in the area of communicable diseases.

**Connaught R. J. Wilson Fellowship**
Connaught Laboratories Limited has established an award of approximately $10,000 by annual donation to a first-year student in the Department of Public Health Sciences whose career interests lie in the intersection of public health, epidemiology, and health promotion.

**Dr. Joe A. Connolly Memorial Award**
Family, friends, and colleagues of the late Dr. Joe A. Connolly have endowed a fund, the income of which provides an award to a student registered in the doctoral program who has demonstrated excellence in cell biology research.

**Dr. Joe A. Connolly Memorial OSOTF Award**
Awarded on the basis of financial need to a student demonstrating excellence in cell biology research.
**OSOTF**

**Leslie Gladstone Cook Memorial Fellowships**
One or more awards will be made available from the annual income of an endowment established through the generous support of Alfreda Cook. The awardee(s) will be drawn from the annual pool of applicants to the Department of Chemistry. To be eligible, the incoming graduate student must be travelling from other parts of Canada to Toronto or be attending special conferences in their field or require stipend support based on financial need.

**Edith Cosens Endowment Fund**
Awarded to graduate students in the Department of Nutritional Sciences on the basis of academic excellence to support and promote the study of and the dissemination of information on community nutrition.

**Dean Gordon Cosens Graduate Award**
In memory of Professor Gordon Cosens, former Dean of the Faculty of Forestry, Miss Edith Cosens has generously endowed funds to provide an annual award to one or more full-time graduate students registered in the Graduate Department of Forestry. Value: annual income.

**Helene and George Coward Award in Gerontology**
In memory of his parents, Helene and George Coward, Kenneth Coward has endowed an award of approximately $500 to a graduate student who is engaged in research in the field of gerontology. Apply by July 15 to the Institute for Human Development, Life Course, and Aging.

**Helen L. Cross (nee Colquhuon) Memorial Graduate Scholarship**
Awarded on the recommendation of the Department of Chemical Engineering and Applied Chemistry to a graduate student in the program. Preference is given to a female student and, if possible, a female student from Northern Ontario. Application required. Value: annual income.

**James F. Crothers Family Fellowships in Peripheral Nerve Damage**
Awarded to students in the Faculty of Medicine on the basis of academic excellence and financial need. Preference given to students researching the causes and treatment of peripheral nerve damage, repair, and regeneration. Application required.

**Dr. J. R. Cunningham Graduate Fellowship in Cancer Research**
This Scholarship was established by The Princess Margaret Hospital Foundation for award to graduate students in the health sciences faculties who are studying with faculty members located at the Ontario Cancer Institute (or its successor) and are engaged in cancer research. Value: variable.
**OSOTF**

**Rosella Cunningham Memorial Fellowship**
Awarded to a graduate student in the Department of Nursing Science to prepare candidate for work in public health nursing.

**Peter Curtis Memorial Bursary**
Family and friends of Peter Curtis, former doctoral student in the Department of Industrial Engineering, have endowed funds to provide one or more awards, on the basis of financial need, to graduate students in the Department of Mechanical and Industrial Engineering.

**Dairy Farmers of Canada Graduate Student Fellowships**
For award to Faculty of Medicine graduate students, on the basis of financial need, who are studying in the field of nutrition and osteoporosis. Value: annual income.
**OSOTF**

**The Dalton Chemical Laboratories Organic Chemistry Scholarship**
Fellowship for a first year graduate student in organic chemistry whose academic performance improved the most between the third and fourth years in the undergraduate program. Value: annual income.
**OSOTF**

**Grant D. Darker Memorial Award**
The annual income from donations received from friends and colleagues in memory of Dr. Grant D. Darker is awarded to the outstanding graduate student in the Department of Botany studying in the area of mycology.

**Lillian Elfleda Darker Award**
The estate of the late Grant Dooks Darker established an endowment, the income of which provides an award for a graduate student(s) enrolled in the Department of Botany and studying in the area of mycology.

**Wallace A. Delahey Fellowship**
Income from a bequest of the late Wallace A. Delahey provides for a fellowship for award to a full-time graduate student in the Faculty of Forestry on the basis of academic merit.

**The Dent-Paech Nursing Fellowship**
Awarded on the basis of academic merit to a graduate student in the Department of Nursing Science who specializes in mental health nursing.

**Michael J. Dignam Graduate Travel Award**
Family, friends, and colleagues of the late Professor Michael J. Dignam have established a travel award for graduate students in the Department of Chemistry. Apply to the Department of Chemistry by November 1. Value: approximately $1,000.

**Dr. Rajalakshmi S. Dittakavi and Dr. Prema M. Rao Graduate Awards in Laboratory Medicine and Pathobiology**
One award given to a student in the Department of Laboratory Medicine and Pathobiology studying the cause and cure of cancer.

One travel award given to a student to present results on the cause and cure of cancer at the annual AACR conference.

**The Maureen Dixon Memorial Award**
Friends and colleagues of Maureen Dixon have endowed funds, the annual income of which is awarded to a student in the Department of Health Policy, Management and Evaluation. Awarded on the basis of a proven outstanding contribution to a community health agency such as a district health council or a community service delivery agency (home care, nursing agency, mental health agency, etc.)

**The R. M. Dixon Prize**
On the recommendation of the Coordinator, Graduate Department of Forestry, given to a full-time graduate student in Forestry pursuing studies in an area related to international forestry. Value: annual income.

**Gail Donner Doctoral Nursing Fellowship**
Awarded on the basis of academic merit to a full-time or part-time doctoral student in the Department of Nursing Science whose nursing career goals and program reflect a nursing administration/health policy focus.

**William J. Dowkes Graduate Bursary**
Awarded on the basis of financial need to a student in the Department of Chemical Engineering and Applied Chemistry

**T. W. Dwight Prize**
Awarded on the basis of academic merit to a student in the Master of Forest Conservation degree program in the Faculty of Forestry. Value: annual income.

**Eco–Tec Founder's Fellowship**
Eco–Tec Limited has donated funds to provide one award for a graduate student pursuing environmental graduate studies in the Department of Chemical Engineering and Applied Chemistry. Value: annual income.
**OSOTF**

**Harold S. Edmonds Scholarship**
Awarded to a full-time graduate student in the Faculty of Forestry on the basis of academic achievement.

**H. V. Ellsworth Graduate Fellowship in Mineralogy**
The estate of the late Mabel J. Ellsworth provides for an annual fellowship to a deserving graduate student in the Department of Geology pursuing research in the general field of mineralogy.

**Florence Emory Fellowship**
This fellowship, provided by the School of Nursing Alumni Association, is open to students who enrol full-time in a master's program in the Graduate Department of Nursing Science who intend to work in the nursing field following graduation, and who are in financial need. The fellowship has a value of $3,500 for the academic session. Apply in writing by March 31 to the Chair of the Graduate Awards Committee, Graduate Department of Nursing Science.

**Epidemiology and Biostatistics Award Endowment**
The award will be given annually on a rotational basis to one or more students studying in one of the following programs in the Graduate Department of Public Health Sciences, starting with:
1. Epidemiology (M.Sc./Ph.D.)
2. Public Health Sciences and Epidemiology (M.H.Sc.)
3. Biostatistics (M.Sc./Ph.D.)

The selection will be based on financial need and academic merit.

**Etkin Medal for Excellence**
Awarded to a graduate student in aerospace studies for outstanding performance in Flight Mechanics. Students in all years of graduate study are eligible.

**A. Murray Fallis Graduate Award in Zoology**
For award on the basis of academic merit to a master's or doctoral student studying in Zoology.
**OSOTF**

**Bernhard Fernow Graduate Fellowships**
Awarded to graduate students in the Faculty of Forestry on the basis of academic merit and financial need. Value: annual income.
**OSOTF**

**Michael S. Fieldus Memorial Award**
Family, friends, and colleagues of the late Michael S. Fieldus have endowed a fund, the income of which provides an annual award to one or more graduate students in the Department of Astronomy and Astrophysics. The award is made on the basis of outstanding and sustained contribution to academic achievement, teaching, or service to the Department of Astronomy and Astrophysics.

**P. C. Finlay Q. C. President's Fellowships in Geology**
Awarded to two or more graduate students studying geology who intend, upon graduation, to take their expertise to developing nations. Value: annual income.
**OSOTF**

**Frank Fletcher Memorial Fund**
The estate of Lorna Yates Fletcher has established a scholarship for award to a graduate student, on the basis of financial need, who is pursuing study and research into the cause and cure of cancer. Value: annual income.
**OSOTF**

**Forestry Memorial Admission Fellowship**
Awarded on the basis of academic merit to the student entering the professional Master of Forest Conservation degree program with the highest cumulative GPA in an undergraduate program. Value: annual income.

**Fortran Traffic Systems Graduate Scholarship in Transportation Research**
Awarded to a doctoral-stream student in the Department of Civil Engineering. Preference will be given to a student in Transportation Engineering.

**The Merck Frosst Canada Inc. Chemistry Conference Award/The Merck Frosst Canada Inc. Graduate Award in Chemistry**
The Conference portion of this award will be given to a senior graduate student in synthetic organic chemistry to attend an international conference and present findings. The student must have a research publication from their graduate studies. The Graduate Award portion will be awarded to an incoming graduate student intending to carry out research in organic synthesis.
**OSOTF**

**Merck Frosst Canada Inc. Pharmaceutical Care Award**
Awarded to the second year Pharm.D. student with the highest cumulative mark in the mandatory pharmaceutical care rotations.

**Merck Frosst Graduate Scholarship in Biosciences and Biotechnology**
Awarded on the basis of academic merit to a new student entering the Master of Biotechnology program.

**Reino A. Freeman Fellowship**
Mrs. Ellen B. Freeman has endowed funds to provide an annual fellowship to a highly qualified incoming graduate student in the Department of Zoology engaging in parasitology research.

**Sheila Freeman Graduate Award in Zoology**
Colleagues and friends of Sheila Freeman have endowed a fund, the income of which provides an award to a graduate student in Zoology. Value: annual income.
**OSOTF**

**Dr. Thomas L. Friedlich Memorial Award in Surgical Science**
The friends and family of Dr. Thomas L. Friedlich have endowed funds, the income of which is awarded to a neurosurgery resident in the Department of Surgery pursuing a graduate degree in neuro-oncology. In the event that two or more qualified candidates exist, preference will be given to the candidate demonstrating clinical excellence and compassionate patient care. The successful candidate will use the funds to defray the cost of attending an annual national or international research conference on neurosurgery. Apply through the Institute of Medical Science.

**Frist–Jus Annual Memorial Award**
This scholarship is in honour of the memory of Dr. Juliusz, Dorota and Zofia (Zosia) Frist. Awarded, on the basis of financial need and academic performance, to graduate students specializing in the area of psychopharmacology, including neuro-transmitter and neuro-receptor research. Value: annual income.
**OSOTF**

**Dr. Clara Winifred Fritz Memorial Fellowship in Plant Pathology**
The estate of Madeleine Alberta Fritz makes possible an annual award, based on academic excellence, to a graduate student studying in the area of plant pathology. Value: annual income.

**Margaret and Howard Gamble Research Grant**
Awarded on the basis of financial need to students involved in basic science research related to mental retardation.

**Duncan L. Gellatly Memorial Award**
Family and friends of Duncan Gellatly have established an award to be given every other year to a graduate student demonstrating excellence in virology research. Submit nominations to the Graduate Studies Committee, Department of Botany. Value: annual income.

**General Motors Women in Science Mathematics Awards**
Recipients may be graduate or undergraduate female students enrolled in a science or mathematics program of study in the academic year in which they receive the award. Financial need and academic merit may also be considered. Apply to the Faculty of Arts and Science Student Awards Committee by March 15 for the upcoming Fall/Winter session. Value: annual income.
**OSOTF**

**Gina Gesser Memorial Award**
Relatives, friends, and co-students of Gina Gesser have endowed a fund in her memory, the income of which provides an annual award to a graduate student enrolled in the M.Sc. program in Behavioural Sciences. Preference will be given to outstanding students in the area of gerontology, public policy, equity in health care, and the health concerns of immigrant populations.

**The Bernard Ghert Fellowship in Psychiatry**
Awarded on the basis of financial need to students in the Psychiatry programs at the Mount Sinai Samuel Lunenfeld Research Institute or the Baycrest Centre for Geriatric Care. Value: variable.
**OSOTF**

**Lachlan Gilchrist Fellowships**
These awards are made annually to students in fundamental physics in their second year of graduate work in the Departments of Aerospace Science and Engineering, Mathematics, or Physics. Value: income.

**Rosamond M. Gillies Fellowship**
The annual income from funds generously donated by Mrs. Rosamond M. Gillies is available to full-time graduate students in the Department of Forestry on the basis of academic merit and financial need.

**Alice Girard Memorial Fellowship**
Awarded on the basis of academic merit to a doctoral student who has completed at least one year of the Ph.D. program in the Graduate Department of Nursing Science. Application not required. Nomination is made by the Faculty of Nursing Awards Committee. Value: annual income.

**M.R. Glavicic Prize**
Awarded at the end of the first winter session of the professional Master of Forest Conservation degree program in the Faculty of Forestry, on the basis of academic merit and professionalism, to the student who achieves the highest combined grade in two courses, Biodiversity of Forest Organism and Applied Forest Ecology. Value: annual income.

**Glaxo Wellcome–Sunnybrook Drug Safety Clinic Graduate Student Fellowships**
Awarded to graduate students in financial need pursuing studies in the area of drug safety at the Sunnybrook Drug Safety Clinic. Value: annual income.
**OSOTF**

**Stephen Godfrey Graduate Student Scholarship in Suicide Studies**
This award has been set up for a graduate student in financial need in the Department of Psychiatry. Value: annual income.
**OSOTF**

**The Dr. Theodore Goldberg Scholarship Fund**
Established by the family, friends, and colleagues of the late Ted Goldberg, former Chair of the Department of Health Policy, Management and Evaluation, the award is available to a Ph.D. student currently enrolled in that department and studying health policy or organizational behaviour. The award is based on excellence, promise, and financial need. The Chair of Health Policy, Management and Evaluation will establish a selection committee each year. Annual value: approximately $1,500.

**The Sarah Cusick Gollop and William George Gollop Memorial Graduate Scholarships**
Three scholarships are available to graduates enrolled in a program of study in Chemistry leading to an advanced degree, with first preference given to eligible graduates of North Bend High School, Nebraska.

**Jenne Lewis Goodman Award**
Awarded to students enrolled in the Faculty of Medicine on the basis of their academic excellence in Occupational Therapy. Preference will be given to students in their last year of study who have demonstrated special ability and interest in the area of occupational therapy in mental health as evidenced by excellence in both course work and field work.

**Andrew Robertson Gordon Fellowship**
The estate of Andrew Robertson Gordon provides for an annual award, based on academic merit, to one or more full-time graduate students in the Department of Chemistry.

**C.C. Gotlieb (Kelly) Graduate Fellowship in the Department of Computer Science**
Awarded on the basis of academic merit to a student in any sub-discipline of Computer Science.

**The Jeanne F. Goulding Fellowship**
The estate of the late Mrs. Jeanne F. Goulding provides an annual fellowship for a full-time graduate student in the life sciences (Division IV) pursuing research in the fields of conservation, pollution control, and ecology in general. Value: approximately $5,000.

**Graduate Admission Award**
For award on the basis of financial need to a student admitted to the master's program in the Faculty of Nursing. Academic merit will also be considered. Value: annual income.
**OSOTF**

**Graduate Award in Laboratory Medicine and Pathobiology**
Established by friends and colleagues of Drs. A.D. Baines and M.D. Silver to honour their past contributions as Chairs to the Department of Laboratory Medicine and Pathobiology, an award is given to a graduate student in the Department of Laboratory Medicine and Pathobiology based on academic performance and financial need. Value: annual income.
**OSOTF**

**Graduate Fellowship(s) in Forestry**
Awarded on the basis of financial need and academic merit to students pursuing master's and or Ph.D. degrees in the Faculty of Forestry. Value: variable.

**Graduate Student Fellowship in Medical Oncology**
The award is given to a graduate student in Medical Oncology based on financial need. Value: variable.
**OSOTF**

**Graduate Student Relocation Assistance Award**
Awarded to new graduate students in the Department of Chemistry to offset expenses incurred in relocating to Toronto from elsewhere in Ontario. Academic merit and financial need are considered.
**OSOTF**

**Graduate Studies in Silviculture Award**
Mr. W. D. Start has endowed funds to provide an award, on the basis of financial need and academic merit, to a full-time graduate student in the area of silviculture or tree improvement in the Faculty of Forestry.
**OSOTF**

**Greater Toronto Airport Authority Graduate Scholarship**
Awarded to a student entering the Civil Engineering master's program with additional preference for a student specializing in Transportation Engineering.

**Malka and Al Green Graduate Fellowship in Psychiatry**
Awarded to graduate students in the department of Psychiatry at Mount Sinai Hospital who are in need of financial assistance. Value: variable.
**OSOTF**

**A. T. Griffis Memorial Graduate Scholarship**
Watts, Griffis and McQuat Ltd. have endowed funds to provide a scholarship to a full-time graduate student in the Department of Geology, on the basis of academic excellence, professional dedication, and imagination. Preference may be given to students requiring geology field trips, especially for research involving a significant economic geology component.

**Allan Gross Graduate Award**
Awarded on the basis of financial need to a student in the Institute of Medical Science who is researching orthopedic surgery.

**Dr. Allan E. Gross Scholarship**
Dr. and Mrs. Gross and Mr. Martin Teplitsky have contributed to an endowed fund, the income of which is awarded to a clinical clerk entering the third of four years at the Faculty of Medicine. Financial need and academic merit will be considered.

**The George A. Guess Memorial Fellowship**
The estate of Edna Florette Guess provides funds for one or more annual awards to graduate students in the Department of Materials Science and Engineering.

**Frank Howard Guest Graduate Bursary**
Funds from the estate of Frank Howard Guest provide for bursaries based on academic standing and financial need. Students enrolled in any graduate program in any department in the Faculty of Applied Science and Engineering may be considered. Apply by November 1 to the graduate coordinator.

**Danielle Haasz Graduate Scholarship**
Dr. Anthony A. Haasz established this scholarship in memory of his wife Danielle for award to a student with an excellent academic record entering the University of Toronto, with emphasis on dietetics, and leading to a professional registration in the association of the Dietitians of Canada. Value: annual income.
**OSOTF**

**Robert and Jean Hadgraft Graduate Fellowship in Chemistry**
Awarded on the basis of academic merit to one or more graduate students in the Department of Chemistry. Financial need will also be considered.
**OSOTF**

**Halbert Family Fund for Breast Cancer Research**
Awarded to students on the basis of financial need who are resident at the Marvelle Koffler Breast Centre and who are supervised by members of Mount Sinai Hospital or its Samuel Lunenfeld Research Institute Committee. Value: annual income.
**OSOTF**

**Hayden Hantho Award**
Awarded on the basis of financial need to graduate students registered in degree programs studying with U of T faculty members located at the Hospital for Sick Children who are engaged in Pediatric Neurosurgery research. Apply to the Department of Pediatrics, Faculty of Medicine. Value: annual income.

**Harmonize for Speech Fund**
This annual scholarship is given to a graduate student in the Department of Speech-Language Pathology based on financial need.
**OSOTF**

**Hastings Memorial Fellowship**
Friends of the late Dr. Hastings have endowed funds for an award to a full-time graduate student engaged in original investigations in the field of community health under the direction of the Public Health Sciences faculty. Value: not less than $2,500.

**Haultain Fellowship**
The estate of Mary Alice Wells provides an annual fellowship for award. on the basis of academic merit, to a full-time graduate student enrolled in the Department of Materials Science and Engineering undertaking research in mineral or metallurgical engineering. Preference will be given to students in the research field of mineral engineering.

**Graduate Fellowship for Research in Health and Physical Activity**
Awarded on the basis of acceptance into the Physical Education and Health program and on academic merit determined by grades, publications, presentations, and research. Renewable for one year upon review. Candidates may apply or nominations may be submitted by a faculty, student, or staff member of the Faculty of Physical Education and Health. Value: annual income.

**Heart and Stroke Foundation Fellowships in Cardiovascular Nursing**
Three fellowships are awarded to full-time students in a master's program in the Graduate Department of Nursing Science on the basis of the candidate's record and serious intention, following graduation, of practising in cardiovascular or cerebrovascular nursing in Ontario. Valued at $3,000 each for the academic session. Apply by March 31 to the Graduate Department of Nursing Science.

**Walter Helm Fellowship in Astronomy**
The Walter Helm Scholarship Fund provides a scholarship for a graduate student in Astronomy and Astrophysics. Value: annual income.

**V. L. Henderson Research Fellowship in Electrical and Computer Engineering**
Mrs. Ellen Henderson and Professor Marion Bassett have endowed funds, the income of which is awarded to a graduate in Electrical Engineering or Computer Engineering who undertakes graduate work in either field.
**OSOTF**

**Charles Hershfield Memorial Scholarship**
The Hershfield family has provided a scholarship in memory of the late Professor Charles Hershfield, a faculty member in the Department of Civil Engineering from 1945 to 1976. Based on academic excellence, the income from the fund is awarded to one or two graduate students enrolled in the field of structural engineering upon completion of their first year.

**David Hewitt Award**
Through the generous donations of alumni, friends, and colleagues of David Hewitt, an award is given to a graduate student in Public Health Sciences on the basis of the student's contribution to the intellectual and social life of the Public Health Sciences student body.

**Hannah Farkas Himsley and Alexander Himsley Memorial Prize**
Through a generous donation from Ms. Leorah Kroyanker and Ms. Ruth Geva this scholarship has been established for award alternately to graduate students in the Faculty of Medicine's Department of Medical Genetics and the Faculty of Applied Science and Engineering's Biomedical Engineering Group. Value: annual income.
**OSOTF**

**Douglas Paton Hogg Memorial Award**
This award was established in 1987 by the Ontario Section, American Society of Mechanical Engineers in memory of Douglas Hogg, eldest son of Allan D. Hogg, M.A.Sc. (1938), Ph.D. (1940), University of Toronto; and Ruth S. Hogg, B.A. (1963), M.A. (1966), University of Toronto. Additional funding has been generously provided by Dr. Allan Hogg. The award is for a graduate student undertaking research related to aircraft/rotorcraft in any of the following areas: stability and control, flight mechanics, crashworthiness and fire hazards, flight safety, or human-machine interactions. In addition to academic standing, the recipient must also be of good character and have good leadership ability. Value: $500.
**OSOTF**

**Frank S. Hogg Memorial Fellowship**
This award is offered annually to a graduate student in Astronomy and Astrophysics. One or more awards are available up to the value of the annual income.

**The Thomas H. Hogg Overseas Fellowship**
The Faculty of Applied Science and Engineering annually awards one fellowship valued at $10,000. The applicant must be a Canadian citizen or permanent resident, and hold a B.A.Sc. or M.A.Sc. degree from the University of Toronto. The applicant must enrol in a graduate degree program in a recognized university outside the North American continent. Preference is given to applicants in the field of hydraulics, fluid mechanics, or power systems engineering. Apply through the Faculty of Applied Science and Engineering.

**Robert C. Hosie Prize**
Mr. A.F. Buell, Mr. T. A. Buell, and others have endowed funds to provide an annual prize for award, on the basis of academic merit, to a full-time graduate student in the Faculty of Forestry.

**Household Science and Nutritional Sciences Alumni Graduate Scholarship**
For award to Faculty of Medicine graduate students on the basis of financial need who are studying in the field of nutritional sciences. Value: annual income.
**OSOTF**

**Gordon Ferrie Hull Fellowship**
This fellowship is awarded in alternate years to a Ph.D. candidate in the Department of Physics who already holds an M.Sc. degree or equivalent. Value: annual income.

**Kathleen and Donald Strong Hull Fellowship**
The estate of Donald Strong Hull has generously provided funding for a fellowship to assist in attracting an excellent candidate to the Department of Botany. The award is given to a graduate student on the basis of financial need and academic merit.
**OSOTF**

**The Tom Hull Scholarship in Computer Science**
Friends, colleagues, and former students have established an award in memory of Professor Tom Hull. Awarded to undergraduate or graduate students in computer science, the award is based on financial need and takes academic merit into consideration.
**OSOTF**

**Hunt Estate M.D./Ph.D. Student Aid**
Awarded to graduate students in the Faculty of Medicine on the basis of financial need. Value: variable.
**OSOTF**

**Archibald G. Huntsman Graduate Award in Zoology**
Awarded on the basis of academic merit to a master's or doctoral student in Zoology. Apply to the Associate Chair, Graduate Affairs, Department of Zoology. Value: annual income.

**Mary Gertrude l'Anson Scholarship**
Awarded to a doctoral student in the health sciences, broadly defined, on the basis of financial need and academic merit. Eligible graduate units: Life Sciences (Division IV) and Biomedical Engineering, Chemical Engineering, Environmental Studies, Human Development and Applied Psychology, Management, Mechanical Engineering, Social Work, and Sociology. Application consists of nomination form plus a letter of recommendation from the graduate unit, transcripts, OSOTF financial needs assessment form, and a statement from the nominee de-

scribing research project (1–2 pages). Deadline: end of April. Value: approximately $10,000. In some cases, awards of lesser value may be granted as top-up awards.
**OSOTF**

**Frederick P. Ide Graduate Awards in Zoology**
Established through a bequest from the estate of Dr. Frederick Palmer Ide and various other donors, fourteen awards of equal value are awarded to master's or doctoral students studying in Zoology.
**OSOTF**

**Fred G. Jackson Prize**
Awarded annually to the student enrolled in the professional Master of Forestry Conservation degree program in the Faculty of Forestry who submits the best report in the Research Paper in Forestry Conservation course, based on work undertaken in the Internship in Forest Conservation course. Value: annual income.

**R. E. Jervis Award**
The Canadian Nuclear Society and others have provided funds to offer a $500 annual award to a Canadian graduate student pursuing full-time research involving the development of radiochemistry or its application in areas such as human health, chemical engineering, nuclear safety, or environmental pollution. Apply to the Department of Chemical Engineering and Applied Chemistry.

**Edward Elsworth Johnson Postgraduate Forestry Fellowships and Awards**
The estate of Marguerite Johnson has established a fund, the annual income of which is awarded to students pursuing master's and/or Ph.D. degrees in the Faculty of Forestry. Academic merit and financial need are also considered.

**Dr. Terry Kavanagh Fellowship**
Awarded to new students entering a graduate program of study in primary or secondary prevention of heart disease, cardiac rehabilitation, or in a related field in which physical fitness is the primary component for the improvement of health and quality of life. Awarded on the basis of academic merit determined by grades, publications, presentations, and research. Apply to the Faculty of Physical Education and Health. Value: annual income.

**Wendy M. Kates Memorial Scholarship**
In memory of Wendy M. Kates, family members, friends, and colleagues have endowed funds to provide an annual scholarship for award to a graduate student in Biomedical Communications on the basis of academic achievement in the M.Sc.BMC Master's Research Paper. Commitment to the profession may also be considered.

**Wendy M. Kates Memorial Bursary**
In memory of Wendy M. Kates, family members, friends, and colleagues have endowed funds to provide a bursary for award to a graduate student in Biomedical Communications on the basis of financial need and academic achievement in the M.Sc.BMC Master's Research Paper. Commitment to the profession may also be considered.
**OSOTF**

**Dr. Norman Keevil President's Fellowship in Geology**
The award is offered to two or more graduate students studying geology at the master's or doctoral level. Candidates must be students who intend to bring their expertise to developing nations upon graduation.
**OSOTF**

**John L. Kellerman Fellowship in Civil Engineering**
This fellowship is given to a student holding a degree in engineering who has an interest in and an aptitude for steel construction. For application and further information regarding the value of the fellowship consult the Department of Civil Engineering.

**Merrijoy Kelner Scholarship**
Various donors have endowed a fund to honour Professor Kelner upon her retirement from the University of Toronto. The annual income is awarded to an outstanding M.Sc./Ph.D./M.H.Sc. (Health Promotion) student in the Graduate Department of Public Health Sciences (Behavioural Sciences) who shows excellence and great promise for a career in applying social sciences to the health field.

**Dr. Jesse Keshin Graduate Student Award**
Ms. Barbara Wingrove and Mr. Victor H. Romley have kindly endowed funds to establish a fellowship for award to a Faculty of Medicine graduate student on the basis of financial need. Value: annual income.
**OSOTF**

**Dr. Edward Ketchum Graduate Student Scholarships**
For graduate students in financial need who are participating in research programs investigating novel-immunotherapeutics for B-cell

lymphoma at the Faculty of Medicine. Value: variable.
**OSOTF**

**The John Davidson Ketchum Memorial Graduate Award in Psychology**
Awarded to a student studying the broad field of human psychology. Financial need and academic merit are considered.
**OSOTF**

**Kathleen King Doctoral Fellowship**
An admission award is offered, on the basis of academic merit, to a full-time incoming doctoral student in the Graduate Department of Nursing Science. Application not required. Nomination is made by the Faculty of Nursing Awards Committee. Value: $5,000 or annual income.

**Ina Kniep Scholarship**
Awarded to graduate students in the Department of Nutritional Sciences on the basis of academic excellence. Preference will be given to students who are members of the Canadian Dietetic Association and who are pursing graduate studies in Community Nutrition.

**Partners in Research Marvelle Koffler Prize**
Awarded to students from the Department of Immunology and/or the Department of Laboratory Medicine and Pathobiology doing biomedical research. Offered on the basis of academic excellence and on demonstrated public education in the lay community related to the mission of Partners in Research. Secondary preference will be given to graduate students in other graduate units of the Faculty of Medicine.

**Dr. Peter Kong–Ming New Memorial Award**
Awarded to a M.Sc. or Ph.D student for the best paper submitted for a course in Behavioural Science during the previous calendar year. Theses and dissertations are ineligible for consideration. All M.Sc. and Ph.D. graduate students enrolled in the Department of Behavioural Science's graduate program are eligible to apply directly for this award and/or to be nominated by faculty. Value: book award to the total value of annual income.

**Marion Kuhns Memorial Fellowship**
Awarded to a graduate student in the Department of Nursing Science on the basis of financial need and academic standing in the last year of the Pediatric Nursing specialization. Application not required. Nomination is made by the Faculty of Nursing Awards Committee. Value: approximately $2,500.

**Arthur and Sonia Labatt Fellowships**
For award to master's or doctoral candidates in the Institute for Environmental Studies on the basis of academic excellence and financial need. Preference will be given to students who are exploring practical based solutions to environmental issues or examining the market place for solutions to environmental issues. Value: annual income.

**Arthur and Sonia Labatt Fellowships**
For award to master's or doctoral candidates in the Institute for Environmental Studies on the basis of academic excellence and financial need. Preference will be given to students who are exploring practical based solutions to environmental issues or examining the market place for solutions to environmental issues. Value: annual income.

**The Annie L. Laird Fellowship in Food Sciences**
The Annie L. Laird Fellowship, the gift of her sister, Miss Elizabeth R. Laird, D.Sc., is awarded in alternate years to a University of Toronto graduate undertaking a graduate program in nutrition in the Department of Nutritional Sciences. Value: approximately $3,200.

**The Lorne F. Lambier, Q.C. Scholarship**
Awarded to a student investigating or researching cancer within the discipline of biochemistry. Nomination form required. Deadline: near the end of April. Value: annual Income.

**Dr. Bernard Lau Memorial Scholarship and Graduate Bursary**
The family and friends of Dr. Bernard Lau have established a fund, the annual income of which is awarded to an incoming graduate student in the Faculty of Medicine. Recipient should participate in extracurricular activities and demonstrate a concern for disadvantaged members of the community.

**Dr. Alan K. Laws Clinical–Scientist Fellowship Fund**
The Laws Fellowship promotes excellence in training anaesthetists for careers as clinician–scientists. Preference is given to anaesthesia residents or junior fellows enrolled in a graduate program. Apply to the Faculty of Medicine. Value: annual income.

**Donald J. Leroy Graduate Prize in Physical Chemistry**
Annual income from the generous donations of family, friends, and colleagues of the late Professor D. J. Leroy is available to a graduate student in the Department of Chemistry. Particular attention is paid to the student's contribution to the writing of a research paper(s), either submitted or published.

**Carol Anne Letheren Fellowship**
Awarded to a new student in the Faculty of Physical Education and Health on the basis of admission, the study of girl's and women's health, physical education and sport administration through research and advocacy, and on academic merit. Renewable for one year upon review.

**Herta Leyss Scholarship in Physical Therapy**
Awarded on the basis of academic excellence to graduate students in the Department of Physical Therapy, Faculty of Medicine.

**Dr. Norman Levine Bursary in Graduate Pediatric Dentistry**
Dr. and Mrs. Norman Levine and family have contributed funds for a fellowship for award to a student currently in the graduate program in Pediatric Dentistry who demonstrates financial need and has satisfactory academic standing.
**OSOTF**

**Lifebeat '96 Graduate Studentship Award in Women's Health**
This scholarship is awarded annually to a graduate student studying women's health in the Faculty of Medicine's Department of Family and Community Medicine. Value: annual income.
**OSOTF**

**The Harold L. Livergant Scholarship**
Awarded to a student entering the M.H.Sc. program in Health Policy, Management and Evaluation on the basis of excellence and promise in long term care management.

**The Bernard Ludwig Fellowship in Obstetrics and Gynaecology**
For award to graduate students supervised by staff in the Department of Obstetrics and Gynecology on the basis of financial need. Value: annual income.
**OSOTF**

**The Samuel Lunenfeld Research Institute Fellowships**
This annual scholarship has been established through a generous endowment from the Mount Sinai Hospital Foundation of Toronto for award to graduate students in the Faculty of Medicine on the basis of financial need.
**OSOTF**

**Patricia Lyon Nursing Fellowship**
Awarded to full-time or part-time master's students in the Department of Nursing Science whose studies are consistent with the goals or will further the strategic directions of the Toronto Rehabilitation Institute. Academic merit is considered. Preference is given to employees of the Toronto Rehabilitation Institute. Apply to the Corporate Professional Leader for Nursing, Toronto Rehabilitation Institute, by February 1. Value: annual income.

**Frank A. MacDougall Fellowship**
A fellowship awarded on the basis of academic merit to a full-time student enrolled in the M.Sc.F. or Ph.D. programs in the Faculty of Forestry. Value: annual income.

**Yoshio Masui Prize in Developmental, Molecular, or Cellular Biology**
Awarded on the basis of academic excellence to a master's or doctoral student in the Department of Zoology. International students are encouraged to apply. Apply to the Associate Chair, Graduate Affairs, Department of Zoology. Value: annual income.

**MRC Group Graduate Student Bursary**
The bursary is given to a graduate student working in the MRC Group in Periodontal Physiology.
**OSOTF**

**The J. Edgar McAllister Foundation Graduate Bursaries**
Four bursaries are awarded annually to students registered in one of the graduate departments of Mechanical and Industrial Engineering, Electrical and Computer Engineering, Chemical Engineering and Applied Chemistry, Materials Science and Engineering, and Geology. Value: $5,000.

**Donalda Jean McGeachy Memorial Scholarship**
The estate of Donalda Jean McGeachy has generously provided funds for scholarship(s) for graduate students in the Department of Speech-Language Pathology.

**J. Playfair McMurrich Fellowship in Anatomy**
Funds from the estate of Kathleen Isabel McMurrich, in memory of her late father, Dr. J. Playfair McMurrich, provide a fellowship for a doctoral student in the Department of Anatomy and Cell Biology. The number of awards available is based on the annual income.

**Mentor Medical Systems Canada Graduate Scholarship in Plastic Surgery**
Awarded to graduate students in the Faculty of Medicine on the excellence of their research proposals. Preference given to graduate students who are resident Postgraduate Surgical Trainees in the Division of Plastic Surgery in the Department of Surgery and are pursuing studies in breast surgery, cosmetic surgery, or tissue engineering.

**Microbix Graduate Award**
Microbix Biosystems Inc. annually donates $1,000 in honour of Professor Frances Doane and Ms Nan Anderson in recognition of their dedication to the teaching and well-being of students in the former Department of Microbiology. On the basis of academic merit, $1,000 is awarded to a full-time graduate student enrolled in the first year of the M.Sc. program in the Department of Molecular and Medical Genetics (microbiology program).

**Al Miller Fellowship**
Awarded to an outstanding student pursing a graduate degree in the Department of Materials Science and Engineering. Value: annual income.

**Anthony B. Miller Prize in Cancer Epidemiology**
For award to a student who has completed a doctoral program in Epidemiology within the previous academic year, with the thesis clearly related to cancer. Value: annual income.

**Margaret Amelia Miller Fund**
The estate of Willett Green Miller provides an annual award of approximately $1,500 for a full-time student registered in the School of Graduate Studies for at least one year. The student must be studying geology or geophysics under supervision at Erindale College.

**Richard G. Miller Award**
Johnson & Johnson/Ortho donates funds each year to provide a $500 award to a graduate student completing the doctoral program, in recognition of his/her leadership in the immunology community and the University at large.

**Heather Milne Nielsen Graduate Scholarship**
Awarded to one or more full-time or part-time M.H.Sc. students in the Community/Public Health Nutrition program. Preference will be given to students whose interests match those of Heather Milne Nielsen and who are committed to interdisciplinary study to broaden understanding of the multifactorial causes of nutritional issues.

**Carol Mitchell and Robert Venn Graduate Student Fellowship in Women's Health**
Two awards will be given annually as follows: 50% of the annual income will support a graduate student undertaking women's health research with a Faculty of Medicine member located at the Clarke institute of Psychiatry; 50% will support a graduate student undertaking women's health research with a Faculty of Medicine member located at the Women's College Hospital (or its successor). Value: variable.
**OSOTF**

**Kenneth M. Molson Fellowship**
Kenneth M. Molson Foundation has generously endowed an entrance fellowship for a student entering the Institute for Aerospace Science and Engineering. Value: annual income.
**OSOTF**

**The Norman F. Moody Award**
This award was created on the occasion of the retirement of Professor Norman F. Moody as director of the Institute of Biomedical Engineering. Annual value: approximately $75.

**Ara Mooradian Scholarship**
Awarded to a graduate student in any discipline of the Physical Sciences, Engineering, or Life Sciences related to radioactivity. Selection is based on academic merit. Graduate students can hold the award for a maximum of three and two years, respectively, subject to satisfactory progress as viewed by the selection committee. Application is by way of nomination by the student's graduate unit, transcripts, one letter of recommendation, and a statement from the applicant which includes the following: awards received, contribution to research, and study plan. Deadline: end of April. Approximate value: $6,000.

**The W.W. Moorhouse Fellowship**
The W.W. Moorhouse Fellowship is awarded annually to a graduate student in the Department of Geology. Value: approximately $1,000.

**Grace (Weymark) Morgan Scholarship**
Grace Morgan has provided funds to offer scholarships to one or more full time graduate students. The award is based on academic merit in conjunction with demonstrated skills including leadership and community service. Further preference is given to undergraduate students from Memorial University who qualify for entrance to the M.H.Sc. program in community nutrition.

**F. K. Morrow Forestry Admission Fellowship**
The award is given to a student entering the professional Master of Forest Conservation program in the Faculty of Forestry. Value: $2,000.

**Dr. Gwen Mulock Award**
Applicants must be registered in the second year of the M.S.W. program at the Faculty of Social Work. Preference is given to candidates in Medical Social Work. Apply to the Faculty of Social Work. Value: annual income.

**Thomas and Edna Naylor Memorial Award in Health Services**
Awarded to a graduate student in the Department of Health Policy, Management and Evaluation who completes the best thesis in the field of health services research.

**Emily Newman Scholarship**
The Emily Newman Scholarship is awarded to a graduate student studying pulmonary hypertension with Dr. Marlene Rabinovitch in the Division of Cardiovascular Research at The Hospital for Sick Children. The student will be chosen on the basis of excellence in science, motivation, and commitment to medical research.

**The V. J. Nordin Prize**
Awarded to a full-time Forestry graduate student pursuing studies in an area related to tropical forestry. Value: annual income.

**Nortel Institute Graduate Scholarship for Telecommunications**
Bell Northern Research Limited has established an award for a student in the master's program in Telecommunications based on financial need; academic merit may also be considered. Value: annual income.
**OSOTF**

**Northwater Management Award in Gerontology**
The award supports travel and related conference expenses allowing a graduate student to present a paper in the field of aging or gerontology at a conference. The award is made on the basis of financial need, the quality of the paper to be presented, and the academic promise of the applicant as judged by the Awards Committee of the Institute for Human Development, Life Course and Aging. Application form, conference paper, and supporting letter from the student's professor and co-author (if applicable) are required. Apply to the Institute for Human Development, Life Course and Aging. Value: annual income.

**Louie J. Nozzolillo Postgraduate Fellowship in Forestry Research**
Louie J. Nozzolillo has generously endowed funds to provide a fellowship for award on the basis of academic merit to a graduate student in the Graduate Department of Forestry. The award normally takes the form of a top-up to an Ontario Graduate Scholarship or a U of T Fellowship.

**Faculty of Nursing Admission Fellowship for Part-Time Master's Student**
Awarded to a candidate in financial need, who has a sound academic record, and who is applying to enrol part-time in a master's program in the Department of Nursing Science. Apply by letter explaining financial circumstances and submit a completed financial needs assessment form. Value: $1,000.

**Nursing Alumni Graduate Fellowship**
On the recommendation of the Faculty of Nursing, $5,000 is awarded to a student registered full-time in the M.Sc. or M.N. program in the Faculty of Nursing demonstrating high academic achievement.

**Faculty of Nursing Class of 5T5 Award**
The Class of 5T5, Faculty of Nursing has established a fund, the annual income of which is awarded to a student completing one year of full-time or part-time studies in the master's program in the Faculty of Nursing. Awarded on the basis of demonstrated financial need. Candidates must show evidence of community involvement and/or leadership. Apply by March 31 to the Awards Committee, Faculty of Nursing. The application must include proof of financial need and two letters of reference, showing evidence of community involvement and/or leadership either within or external to the University of Toronto.

**Faculty of Nursing Class of 6T0 Award**
Awarded to a full-time graduate student in the Department of Nursing Science on the basis of academic merit. Application not required.

Awarded on the nomination of the Faculty of Nursing Awards Committee. Value: annual income.

**Faculty of Nursing Doctoral Admission Award**
Awarded on the basis of financial need to a student admitted to the Ph.D. program in the Faculty of Nursing. Academic merit will also be considered. Value: variable.
**OSOTF**

**Faculty of Nursing Doctoral Award in the Care of Children**
Nortel has generously donated funds, the annual income of which is awarded to a doctoral student in the Department of Nursing Science. Eligibility is based on academic merit and priority is given to those engaged in research on the care of children. Apply to the Awards Committee, Faculty of Nursing by March 31.

**Nursing Faculty/Staff Graduate Fellowship**
Awarded to students in the Graduate Department of Nursing Science on the basis of financial need and academic merit.
**OSOTF**

**Department of Nutritional Sciences Graduate Student Fellowship**
Awarded to Faculty of Medicine graduate students on the basis of financial need who are studying nutritional sciences and food safety.

**Occupational Hygiene Scholarship Fund (Public Health Sciences)**
Alumni and faculty members of Public Health Sciences have generously established a fund, the annual income of which is awarded to a student enrolled in the Occupational Hygiene Specialty of the M.H.Sc. program. Eligibility is based on financial need and academic merit.
**OSOTF**

**Atsumi Ohno Scholarship**
Professor Atsumi Ohno of the Chiba Institute of Technology has established an award, given on the basis of academic merit, to a graduate student engaged in research in the field of solidification of metals in the Department of Materials Science and Engineering.
**OSOTF**

**Ontario Nursing Home Association Fellowship**
An award of $750 is offered annually to a full-time student in a master's degree program in the Graduate Department of Nursing Science. Candidates must seriously intend to practise gerontological nursing in Ontario following graduation. Preference is given to applicants specializing in the care of the institutionalized elderly. Apply by March 31 to the Graduate Department of Nursing Science.

**Anne–Liis Ots–Goodman Prize**
Friends, colleagues, and family of the late Anne–Liis Ots–Goodman have endowed a fund, the income of which provides an award to a graduating student (not a physician) who achieves the highest grades in the professional masters program in Occupational Hygiene.

**Rein Otson Memorial Graduate Scholarship**
Awarded to a graduate student on the basis of academic merit in the Department of Chemical Engineering and Applied Chemistry; preference given to students from Estonia. Application required. Value: annual income.

**Rein Otson Memorial Travel Endowment**
Awarded to a graduate student in the Department of Chemical Engineering and Applied Chemistry, with preference given to students from Estonia. The purpose of this award is to assist the recipient of the Rein Otson Memorial Graduate Scholarship with travel and related expenses in order to conduct research and attend conferences/workshops. Application required. Value: annual income.

**PMC–Sierra, Inc. Scholarship in Engineering**
An annual donation of $1,500 is awarded to recognize the academic achievement and related thesis work in the networking/semiconductor field of graduate students completing their final year in the department of Electrical and Computer Engineering. Awarded on the basis of academic achievement in the previous academic year.

**Dr. Roman Pakula Memorial Award**
Through donations from family, friends, and colleagues of the late Dr. Roman Pakula, a $400 award is available annually to a graduate student in the M.Sc. program in the Department of Molecular and Medical Genetics (microbiology program).

**Wilfrid H. McKinnon Palmer Academic Award**
Awarded, on the basis of academic excellence, to students registered in the M.H.Sc. Public Health Sciences (Family Medicine) Program in the Faculty of Medicine. Preference is given to graduate students with a sustained interest in academic aspects of Family Medicine. Apply to the Faculty of Medicine.

**Nora J. Parker Ph.D. Admission Award**
For award on the basis of financial need to a student admitted to the Ph.D. program in the Faculty of Nursing. Value: annual income.
**OSOTF**

**Mary Elizabeth McGainty Parkin Graduate Fellowship in Public Health Sciences**
Dr. William J. McGainty and others have donated funds to establish a fellowship for award, on the basis of financial need, to students in the Department of Family Medicine in the M.H.Sc. program. Value: variable.
**OSOTF**

**Patino Mining Corporation Research Fellowship**
Nipissing Mining Company Ltd., now merged with the Patino Mining Corporation, has endowed funds to provide an annual fellowship for award to a graduate of a recognized university proceeding to a master's or doctoral degree in the field of mineral processing in a department of the Faculty of Applied Science and Engineering at the University of Toronto.

**The G. N. Patterson Award**
This award was created on the occasion of the retirement of Dr. G. N. Patterson as Founding Director of the University of Toronto Institute for Aerospace Studies (UTIAS). Funds were donated by Dr. Patterson, the UTIAS alumni, and industry. The award is given annually to a UTIAS student who has made an outstanding research contribution. Value: $1,200.

**Judy and Samuel Pencer Graduate Fellowship in Psychiatry**
The Mount Sinai Hospital Foundation of Toronto has established an award for graduate students in the Department of Psychiatry at Mount Sinai Hospital who are in need of financial assistance. Value: variable.
**OSOTF**

**Perinatal Nurses of Southern Ontario Graduate Award in Women's Health**
Awarded on the basis of financial need to a graduate student enrolled in the master's or Ph.D. program in the Faculty of Nursing. Demonstration of strong interest in women's health issues is also necessary. Value: annual income.
**OSOTF**

**Al and Hannah Perly Graduate Student Scholarship**
Bob Rae and Arlene Perly Rae have donated funds for this scholarship for award, on the basis of financial need, to graduate students studying leukemia/lymphoma and women's health in the Faculty of Medicine. Value: annual income.
**OSOTF**

**Dr. L. Bradley Pett Graduate Award in Biochemistry**
Dr. L. Bradley Pett has endowed a fund, the annual income of which is awarded to graduate students in the Department of Biochemistry. Eligibility is based on academic excellence and financial need.

**Lorne Phenix Graduate Award**
Awarded on the basis of academic excellence to a student working under the direct supervision of a faculty member of the Heart and Stroke/Richard Lewar Centre of Excellence in Cardiovascular Research.

**Dr. Eliot A. Phillipson—Department of Medicine Fellowships**
The Mount Sinai Hospital Foundation of Toronto has endowed funds to establish a fellowship for graduate students in the Department of Medicine at Mount Sinai Hospital on the basis of financial need. Value: annual income.
**OSOTF**

**OSOTF Physical Therapy Annual Fund**
Awarded to one or more graduate students enrolled in the Physical Therapy Program at the University of Toronto who demonstrate financial need.

**OSOTF Physical Therapy Fund**
Awarded to one or more graduate students enrolled in the Physical Therapy Program at the University of Toronto who demonstrate financial need.

**Lloyd and Frankie Pidgeon Fellowship**
Mr. Lloyd Pidgeon has generously endowed a fellowship for a third-year or fourth-year doctoral student in the Department of Materials Science and Engineering. The student should be strongly focused on studies in extractive metallurgy, although not necessarily tied to non-ferrous metals. Value: annual income.
**OSOTF**

**Ross Pierce Memorial Scholarship**
The annual income from the Trust Fund is normally awarded, on the basis of academic merit and financial need, to a student enrolled in the first year of the M.H.Sc. program in Speech-Language Pathology.

**Platform Computing Graduate Fellowship in Computer Science**
Awarded on the basis of academic merit and financial need to a student in the Department of Computer Science.

**Mildred Claire Pratt Graduate Nursing Fellowship**
The estate of Mildred Claire Pratt has generously provided funds, the income of which is awarded to graduate students having completed one year of full-time or part-time study in palliative care at the Department of Nursing Science. Eligibility is based on financial need, and priority is given to those who exemplify the qualities of compassion and efficiency. Apply to the Awards Committee, Faculty of Nursing by March 31.
**OSOTF**

**H. W. Price Research Fellowship in Electrical and Computer Engineering**
The H. W. Price Research Fellowship in Electrical Engineering consisting of the income from the fund accumulated over one or more years, derived from the sum of $10,000 donated by the Hydro-Electric Power Commission of Ontario, is awarded from time to time to a graduate in Electrical Engineering or Computer Engineering from any recognized university, registered in the School of Graduate Studies, wishing to pursue studies in the field of electrical engineering or computer engineering. Value: approximately $2,000.

**Princess Margaret Hospital Foundation Graduate Fellowships in Cancer Research**
For award to registered graduate students in degree programs who are studying with University of Toronto faculty members located at the Ontario Cancer Institute and who are engaged in cancer research. Value: variable.
**OSOTF**

**John L. Provan Fellowship in Surgical Education**
Various donors have provided funds to offer an annual award to a surgical graduate student needing financial assistance to take formal training leading to a graduate degree in education at the University of Toronto. Value: variable.
**OSOTF**

**The Manuel and Anne Belle Pusitz Graduate Fellowship**
The Manuel E. Pusitz Estate provides an annual fellowship to a full-time student in financial need who has demonstrated success in the first year of a master's program in the Graduate Department of Nursing Science and is enrolling in a second year of full-time study. Preference may be given to an international student. Apply to the Graduate Department of Nursing Science by March 31.

**Les Quatorze Award**
The Les Quatorze Award was established to commemorate the tragic loss of life at Ecole Polytechnique, Montreal, in December 1989 and to recognize outstanding achievements by a woman enrolled as a full-time student in the Mechanical and Industrial Engineering program at the University of Toronto. This award is not limited to academic accomplishments only, but will encompass all aspects of valued involvement and participation, leadership and purpose of significant contribution by women to mechanical engineering.

All women registered in the B.A.Sc., M.A.Sc., M.Eng., or Ph.D. programs in the Department of Mechanical and Industrial Engineering are eligible for nomination. All nominations must be received by the first Monday in April of each year and will be reviewed by a committee appointed jointly by Mrs. Clarice Chalmers and the Chair of the Department of Mechanical and Industrial Engineering. The Les Quatorze Award is fully supported by Mrs. Clarice Chalmers.

**Shahid U. H. Qureshi Memorial Scholarship**
Various donors have endowed funds to provide a scholarship for award to an outstanding graduate student in the area of communications, on the recommendation of faculty in the Communications group in the Department of Electrical and Computer Engineering.

**David Rae Graduate Student Scholarship**
Awarded on the basis of financial need to graduate students studying in the areas of leukemia and lymphoma at the Faculty of Medicine. Value: annual income.
**OSOTF**

**Ewing Rae Graduate Scholarship**
Awarded to a doctoral-stream student studying electrical engineering in the Department of Electrical and Computer Engineering. Academic achievement and financial need are considered, as well as the student's intention to work or conduct further study in Canada.

**W. H. Rapson Memorial Award**
Various donors have contributed to a fund, the annual income of which is given to a graduate student in the Pulp and Pulp Research Centre, on the basis of academic merit. Awarded on the

recommendation of the Department of Chemical Engineering and Applied Chemistry.

**L. V. Redman Fellowship**
Candidates for this award must be completing their undergraduate training and entering a program of study and research in Chemistry leading to an advanced degree. Two fellowships of $2,500 each are awarded for an academic session and preference is given to graduates from universities other than Toronto.

**Carl Reinhardt Fellowship in Astronomy**
This award is offered to candidates proceeding to a graduate degree in Astronomy and Astrophysics. One or more awards is available up to the value of the annual income.

**Right Track CAD Graduate Scholarships**
Three scholarships are awarded annually to graduate students registered in the Department of Electrical and Computer Engineering. Preference is given to students concentrating their studies in Programmable Logic. Academic achievement is the main criterion. Application not required. Value: annual income.

**Edna Margaret Robertson Scholarship**
Endowed funds from the estate of Edna Margaret Robertson provide for two annual awards of approximately $500 each to new students in the Department of Zoology whose research topic is related to conservation of fish or wildlife in Ontario.

**Malcolm Slingsby Robertson Fellowship in Mathematics**
The Venerable John M. Robertson and others have endowed funds to provide an annual fellowship for award, on the basis of academic merit, to one or more graduate students in the Department of Mathematics.
**OSOTF**

**Malcolm Slingsby Robertson Prize in Mathematics**
Through the generosity of the Venerable John M. Robertson, a $500 annual prize is awarded to a graduating Ph.D. student for demonstrated excellence in research.

**Norman Stuart Robertson Fellowships**
These awards are made annually to graduate students in the sciences to the value of the annual income.

**Peter Rodney Book Prize in Combinatorics or a related Field**
Family, friends, and colleagues of Peter Rodney have endowed a fund, the income of which provides an annual award to be given to the best presentation by a Department of Mathematics graduate student at the Ontario Combinatorics Workshop.

**Edward S. “Ted” Rogers Fellowship**
Edward S. Rogers has donated funds to the Department of Electrical and Computer Engineering to provide a $2,000 award offered annually to an outstanding graduate student in the first year of graduate work in the communications area.

**James E.P. Rogers Memorial Fellowship**
Awarded to a student studying Social and Administrative Pharmacy and preferably conducting research in the area of community pharmacy.

**J. Douglas Roseborough Prize in Zoology**
Friends of the late J.D. Roseborough have established a fund, the annual income of which is awarded to a master’s or doctoral student in the Department of Zoology. Financial need and academic merit will also be considered. The award may be held once. Apply to the Associate Chair, Graduate Affairs, Department of Zoology.

**Eila I. Ross Memorial Scholarship**
Awarded to one graduate student in the Division of Biomedical Communications at the Faculty of Medicine. Preference will be given to first or second year students who demonstrate excellence and professionalism in quality of medical illustration and communication output, team participation and leadership skills, and commitment to the profession.

**Dr. Klaus Rothfels Memorial Scholarship**
Friends and former students of Dr. Klaus Rothfels have endowed funds to provide a scholarship to a graduate student in the Department of Botany or Zoology, on the basis of academic merit and financial need.

**Rob Roy Forestry Graduate Travel Awards**
Awarded on the basis of academic performance and financial need to Forestry graduate students in support of essential program-related travel and practical work.

**Monica Ryckman Bursary**
Through a donation by Mrs. Monica Ryckman, bursaries are available to graduate students in the Department of Computer Science who are

otherwise without support. Apply through the Graduate Secretary, Department of Computer Science.

**John J. Ruffo Graduate Fellowship**
Awarded on the basis of academic excellence to Faculty of Medicine graduate students enrolled in the M.D./Ph.D. program.

**Robert and Francine Ruggles Family Graduate Fellowship**
Awarded to Faculty of Medicine graduate students enrolled in the M.D./Ph.D. program on the basis of academic excellence.

**Scace Graduate Fellowship in Alzheimer's Research**
Awarded on the basis of financial need and academic merit to graduate students conducting research in the field of Alzheimer's disease. Apply to the Faculty of Medicine. Value: annual income.
**OSOTF**

**Scace Graduate Fellowship in Prostate Cancer Research**
Awarded on the basis of financial need and academic merit to graduate students. First preference is to graduate students conducting research in the field of prostate cancer with the Fleck/Tanenbaum Chair in Prostatic Diseases. Second preference is to graduate students doing research in the field of prostate cancer. Apply to the Faculty of Medicine. Value: annual income.
**OSOTF**

**Robin Schaffer Graduate Scholarship**
Various donors have provided funds to offer an annual award of $500 to honour the former Director of the Division of Occupational Therapy, Dr. Robin Schaffer. The scholarship is awarded, on the basis of academic merit, to a graduate student with an occupational therapy background entering the first year of the master's program in Rehabilitation Science at the University of Toronto. Financial need may also be considered.
**OSOTF**

**Wilfred George Scott Fellowship in Gerontology**
The estate of the late Wilfred George Scott provides for a fellowship of approximately $6,000 for award to a graduate student for gerontological (differentiated from geriatric) research, with particular emphasis on those areas which are psychological or socio-economic in scope rather than medical and clinical. Apply to the Institute for Human Development, Life Course, and Aging by July 15.

**Senior Alumni Association Prize in Zoology**
Awarded to a master's or doctoral student in the Department of Zoology on the basis of academic merit. Application required. Value: annual income.

**Searle Scholarship**
Through an annual donation from Searle Canada Inc., a scholarship is available, on the basis of academic merit, to a full-time incoming graduate student enrolled in the Department of Molecular and Medical Genetics (microbiology program). To be considered for a Searle Scholarship, candidates must apply for an MRC or NSERC award. Value: approximately $15,000 plus $1,000 travel allowance.

**Stanislaw Seydegart Award in Gerontology and Aging**
Awarded to a social work student with financial need. The student should exemplify dedication to the field of gerontology and aging.
**OSOTF**

**Dick and Peggy Sharpe Student Fellowship in Immunology**
The Wellesley Hospital Foundation has provided funds for award, on the basis of financial need, to graduate students in the Immunology Department in the Faculty of Medicine conducting research at the Wellesley Hospital. Value: variable.
**OSOTF**

**Theodore I. Sherman Graduate Award in Neuroscience**
Revenue Properties Company Limited have generously provided funding for award to graduate students in the Centre for Research in Neurodegenerative Diseases. If a suitable candidate is not found in any given year, the award will be broadened to include other Faculty of Medicine graduate students in the field of neuroscience. Apply to the Faculty of Medicine. Value: variable.

**Meredith & Malcolm Silver Scholarship in Cardiovascular Studies**
Awarded to the graduate student with a demonstrated interest in cardiovascular research who maintains or achieves honours standing during his/her residency with the Department of Laboratory Medicine and Pathobiology. Value: annual income.

**Siminovitch–Salter Award**
The Institute of Medical Science, Mount Sinai Hospital, and U of T's Department of Surgery have endowed funds to provide an annual award to a doctoral student enrolled in the Institute of Medical Science who has displayed outstanding scholarly contribution.

**Marguerite Harland Smith Graduate Award in Rehabilitation Science**
Dr. Carlton Smith has provided funds, the annual income of which is awarded to a full-time physical therapy graduate student, on admission to the Graduate Department of Rehabilitation Science. The student must be conducting rehabilitation research in neuroscience field. Based on financial need and academic achievement. Apply to the Graduate Department of Rehabilitation Science.

**Viola Carless Smith Research Fellowship in Electrical and Computer Engineering**
Professor K. C. Smith has endowed funds, the income of which is to be awarded to a graduate in electrical engineering who enrols in the School of Graduate Studies for further work in this field, specifically in electronics or computer related work.

**John Robert Gilkison Smyth Mathematics Scholarship**
Funds from the estate of the late John Robert Gilkison Smyth provide an annual scholarship for award, on the basis of academic merit, to a graduate student enrolled in the Department of Mathematics.

**Social and Administrative Pharmacy Professors' Award for Thesis Research**
Awarded to students in the Graduate Department of Pharmaceutical Sciences pursuing a degree in the area of Social and Administrative Pharmacy. Application required.

**Speech Foundation of Ontario Award**
Awarded to a student in financial need in the Department of Speech-Language Pathology.

**Morey Speigel Memorial Prize**
Awarded on the basis of academic merit and financial need to a graduate student in the Faculty of Applied Science and Engineering. Value: annual income.

**Paul Starita Graduate Student Fellowships**
An annual award is offered to Faculty of Medicine graduate students on the basis of financial need who are studying within the field of molecular medicine as it applies to prostate cancer. Value: annual income.
**OSOTF**

**Department of Statistics Doctoral Award**
Awarded along with a certificate of acknowledgment to a Ph.D. student in the Department of Statistics. The recipient must have demonstrated excellence in research in the area of statistics or probability. The award is usually given to a senior doctoral student, although all students in the doctoral program are eligible. Value: annual income.

**Stelco Fellowship**
A donation provided by Stelco Inc. supports students in the Department of Materials Science and Engineering conducting steel related research. Value: annual income.
**OSOTF**

**Edward Christie Stevens Award in Nuclear Physics**
Funds from the estate of the late Edward Christie Stevens provide a fellowship for a graduate student engaged in the field of nuclear physics. Value: variable.

**Dr. Margaret L. Stoicheff Graduate Award in Speech-Language Pathology**
Awarded to a graduate student in the Master of Health Science Professional Speech-Language Pathology program. The award is given on the basis of academic excellence and financial need. Apply to the Department of Speech-Language Pathology by the end of February. Value: annual income.

**Hilbert and Reta Straus Award**
In memory of Hilbert and Reta Straus, an endowment has been established in the Department of Botany. The annual income of the endowment is awarded annually to a full-time graduate student who has demonstrated high research achievement in the fields of molecular or cellular biology.

**Dr. R. B. Sutherland Memorial Award**
Friends, relatives, and colleagues of Dr. 'Sandy' Sutherland have endowed funds, the income of which provides an annual award to a graduate student in the Graduate Department of Public Health Sciences who achieves the best performance in the occupational epidemiology course CHL 5410H and who is registered in a program of study directly relevant to occupational health or engaged in occupational health research.

**Surgical Alumni Fellowship in Surgical Science**
Awarded to a graduate student in financial need in the Department of Surgery to allow him/her to undertake formal training leading to a graduate degree in biomedical research or related field. Value: annual income.
**OSOTF**

**Marlene Ruth Swirsky Memorial Award**
Awarded to an M.S.W. student on the basis of financial need and academic merit. Preference is given to students with demonstrated interest and commitment to the field of mental health. Apply to the Faculty of Social Work, Office of Student Services & Records. First award fall of 2002. Value: annual income.

**Tamarack Graduate Award in Diabetes Research**
Arthur Spoerri has generously provided funds, the annual income of which is awarded to a graduate student in the Faculty of Medicine connected with the Banting and Best Diabetes Centre. The award recognizes academic excellence and provides needed financial support for graduate students studying diabetes. Preference is given to students whose primary area of study is diabetic retinopathy. Apply to the Banting and Best Diabetes Centre.

**Dr. Allan S. Tauber Graduate Student Award**
Awarded on the basis of academic excellence to graduate students in the Faculty of Medicine doing research training in the Department of Urology.

**Neil Duncan Thompson Memorial Scholarship**
This award was established in 1996 through an endowment from the estate of Neil Thompson and from family and friends for a graduate student in the Department of Mechanical and Industrial Engineering whose thesis research is in the field of engines or motor vehicles. Value: annual income.
**OSOTF**

**Hillian Titley Graduate Scholarship**
Awarded on the basis of financial need to a graduate student in good standing who is interested in gerontological nursing, especially the care of people with dementia. Academic merit will also be considered.

**Alan Tonks Scholarship in Transportation Engineering**
Friends and colleagues of Alan Tonks, former Chairman of Metropolitan Toronto, have generously endowed a scholarship for master's and Ph.D. students in the Transportation Engineering program of Civil Engineering. Scholarships will be awarded to incoming first year students and may be renewed—one year for master's, two years for Ph.D. Academic merit will be considered.

**The Toronto Hospital Foundation Graduate Student Scholarship in Urological Research**
The Toronto Hospital Foundation provides a fellowship, awarded annually, to a registered student engaged in urological research under the guidance of University of Toronto faculty members located at the Toronto Hospital (or its successor). Value: annual income.
**OSOTF**

**Toronto Rehabilitation Institute Student Scholarships**
Available to students in financial need enrolled in any faculty at the University of Toronto who are either in training at the TRI or at another suitable institution, and whose studies will further the strategic directions of the TRI. Contact the Office of the Associate Dean, Graduate and Inter-Faculty Affairs, Faculty of Medicine for further guidelines and application information.

**The Edward Jarvis Tyrrell Fellowship**
Funds from the estate of Violet Louise Tyrrell, in memory of her husband, provide a fellowship, awarded annually on the basis of academic merit, to a full-time research graduate student in Chemical Engineering and Applied Chemistry.

**Unilever/Lipton Graduate Fellowships in Neurosciences**
Available to graduate students in the Faculty of Medicine who are studying in the area of neurosciences at the Toronto Hospital. Value: annual income.
**OSOTF**

**Marjorie Van Veen Graduate Scholarship in Human Nutrition**
Awarded to graduate students in the Department of Nutritional Sciences, Faculty of Medicine. Preference will be given to students doing graduate research or training in human nutrition.

**The Richard Venn & Carol Mitchell Graduate Student Fellowships in Women's Health Research**
Awarded on the basis of financial need to students in Women's Health Research, supervised by faculty members at Mount Sinai

Hospital and/or its Samuel Lunenfeld Research Institute.

**The Eugene Vayda Scholarship Award**
Awarded to an M.H.Sc. or M.Sc./Ph.D. student in the Department of Health Policy, Management and Evaluation demonstrating excellence and promise in program planning and evaluation within the broadly defined area of service integration. Value: annual income.

**Vetter Emergency Fund**
Awarded to registered students in the Faculty of Social Work in need of financial assistance due to unforeseen circumstances. Apply to the Faculty of Social Work, Office of Student Services & Records. Value: variable.

**Vietnamese-Canadian Community Graduate Award in Zoology**
Awarded on the basis of academic merit to a student studying Zoology.

**Vision Science Research Graduate Student Awards**
Two types of awards are available:
**a** Awarded to graduate students involved in vision research whose supervisors are members of the joint University of Toronto/Toronto Hospital vision science research program. Recipients are selected on the basis of financial need by a committee and the Chair of the Department of Ophthalmology.
**b** Awarded to graduate students enrolled in the clinician scientist program or the M.D./Ph.D. program of the Faculty of Medicine. Academically qualified recipients are selected on the basis of financial need by a committee chaired by the Dean of the Faculty of Medicine. Apply to the Vice-Dean, Research, Faculty of Medicine. Amount: variable.

**Seymour H. Vosko Memorial Prize**
Family and friends of Seymour H. Vosko have endowed a fund to establish an award for a female graduate student in the Department of Physics.
**OSOTF**

**Walker/Marshall Prize**
Awarded on the recommendation of the Department of Medical Biophysics to a doctoral student in the final year of study. Selection is based on the uniqueness and significance of work, academic and publication record, and contribution to student life in the Department. Application is by nomination to the Student Affairs Committee. Value: annual income.

**E. M. Walker Graduate Award in Biodiversity**
Dr. Rosemary Speirs has endowed funds to provide an award to a graduate student studying in Zoology.
**OSOTF**

**The Wallberg Research Fellowships**
The Wallberg Research Fellowships, each with a value of $2,400, are open to graduates of a recognized university who are pursuing advanced study and research in any branch of engineering in the School of Graduate Studies.

**Edwin Walter Warren Graduate Student Awards**
Awarded to one or more graduate students in the Department of Chemistry on the basis of academic merit and financial need. Value: annual income.
**OSOTF**

**Jeannette Elizabeth Watson Memorial Fellowship**
Awarded on the basis of academic merit to a graduate student in the Department of Nursing Science specializing in medical or surgical nursing. Apply to the Faculty of Nursing Awards Committee by March 31. Value: annual income.

**Beverly Wedemire Scholarship**
Family, friends, and colleagues of Beverly Wedemire have donated funds for an annual $500 scholarship for award, on the basis of academic merit, to a graduate student engaged in the area of cancer research. The award was established in honour of Beverly Wedemire, an administrative staff member in the School of Graduate Studies for over 20 years.

**Leon and Blossom Wigdor Award for Studies in Aging**
Dr. Wigdor has established a fund that provides an annual award of $2,000 to a graduate student studying the psychological, social, or behavioural sciences of aging. The award is made on the basis of financial need and academic merit. Preference is given to students enrolled in the Collaborative Program in Aging and the Life Course.
**OSOTF**

**Judy Willcocks Memorial Bursary**
This bursary honours Judy Willcocks, a graduate of the 1961 class of Physical and Occupational therapy, who adapted to lifelong chronic illnesses with courage and grace. Awarded to a full-time Rehabilitation Science student.
**OSOTF**

**Glynn Thomas Williams Fellowship**
Through a generous gift provided by Mr. Glynn Thomas Williams, this award is given to a first-year doctoral student in the Department of Mechanical and Industrial Engineering whose research has potential for commercial application that could benefit Canadians. Value: annual income.
**OSOTF**

**Elizabeth Ann Wintercorbyn Awards in Botany**
An endowment from the estate of the late Elizabeth Ann Wintercorbyn provides two awards to graduate students in the Department of Botany. One award is made annually to a student engaged in research which is likely to prove beneficial to agriculture, and one award is made for research beneficial to medicine. Each award is valued at half of the annual income.

**Carin Wittnich Award of Excellence for Teaching Assistants**
Awarded to the top-ranked teaching assistant in the Department of Physiology's graduate Ph.D. or master's program for the past academic year. The award is based on evaluations by undergraduate students and the Teaching Coordinator.

**Graduate Fellowship for Research in Women's Health and Physical Activity**
Awarded on the basis of acceptance into the program and academic merit determined by grades, publications, presentations, and research. Renewable for one year upon review. Candidates may apply or nominations may be submitted by a faculty, student, or staff member of the Faculty of Physical Education and Health. Value: annual income.

**George F. Wright Organic Cumulative Performance and Organic Seminar Awards**
Friends and colleagues of the late George F. Wright have donated funds to provide two awards of $150 each to graduate students in the Department of Chemistry. The awards will be based on performance in the organic cumulative examinations and in the regular organic seminar.

**Ramsay Wright Scholarship**
This scholarship was established to encourage research in Zoology. Value: annual income.

**The Alan Wu Research Award**
Friends and associates of the late Dr. Alan Wu have endowed funds to provide an award in his honour. A minimum cash award of $200 is granted to the graduate student presenting the best poster at the Scientific Day of the Institute of Medical Science.

**Xerox Research Centre of Canada Graduate Award**
The Xerox Research Centre of Canada provides two awards to graduate students in the Department of Chemistry. One of the awards must be made to a student in the field of materials chemistry related to information and computer technology in line with the business interest of the Xerox Research Centre of Canada. Financial need and academic merit will also be considered.
**OSOTF**

**May Yoshida Scholarship**
Through the generosity of friends and colleagues of Professor May Yoshida, an award, based on academic merit, is available to a full-time incoming doctoral student in the Graduate Department of Nursing Science.

**Yow Kam–Yeun Graduate Scholarship in Diabetes Research**
For award, on the basis of financial need, to a graduate student in the Faculty of Medicine connected with the Banting and Best Diabetes Centre. Value: annual income.
**OSOTF**

**Zindart Graduate Award for Nursing Care of Persons with Cancer**
Awarded to a full-time student entering the final year or a part-time student completing at least 50% of the program requirements. The recipient must demonstrate academic excellence in courses related to Oncology Nursing. Apply by letter addressing the criteria and include one letter of reference from a faculty member.

**Zoology International Scholarship**
Professor Yoshio Masui has endowed funds to provide for two annual scholarships of approximately $750 each to foreign students registered as full-time graduate students in the Department of Zoology. Awarded on the basis of academic performance and financial need.

**Zophia Nurse Practitioner Fellowship**
Awarded, on the basis of academic merit and financial need, to master's students and/or post-master's students in the Graduate Department of Nursing Science who are entering or continuing their study as Acute Care Nurse Practitioners. Apply to the Faculty of Nursing Awards Committee by March 31. Value: annual income.

## 2. FELLOWSHIPS AWARDED BY GOVERNMENT AGENCIES

### CIHR Doctoral Research Awards

Doctoral Research Awards are intended to provide special recognition and support to students pursuing a doctoral degree in the health sciences in Canada. Candidates are expected to have an exceptionally high potential for future research achievement and productivity. The program is open to Canadian citizens and permanent residents of Canada. Only those students engaged in full-time research training in a Canadian graduate school are eligible for support. At the time of application, candidates must have completed at least 12 months of graduate study at the master's or Ph.D. level and have been registered for no more than 26 months as a full-time student in a doctoral program. Deadline: October 15. Late or incomplete applications will not be considered. Awardees receive an annual stipend of $19,030. Program guidelines and applications available at www.cihr.ca.

### Commonwealth Scholarship Plan

Under this plan various governments within the Commonwealth provide scholarships, mainly for postgraduate study, tenable in their countries by students from other parts of the Commonwealth. The emoluments are intended to cover expenses of travel, living, and tuition during tenure of the scholarship.

Details from the relevant government office in the applicant's own country or the Canadian Commonwealth Scholarship Plan, c/o International Council for Canadian Studies (ICCS), 75 Albert, S-908, Ottawa, Ontario, K1P 5E7. Telephone: (613) 789-7828, e-mail: general@iccs-ciec.ca.

### Department of National Defence Security and Defence Forum Scholarship Programs

The Department of National Defence has established a number of scholarships within the framework of strategic studies of relevance to current and future Canadian security. Studies may relate to any of the economic, political, military, technological, or sociological dimensions of national security. Applicants must be Canadian citizens.

Ph.D. scholarships are valued at up to $16,000 and M.A. scholarships up to $12,000.

Closing date for receipt of applications is February 1. For further information and submission of application forms contact the Canadian Awards Program, International and Canadian Programs Division, Association of Universities and Colleges of Canada (AUCC), Suite 600, 350 Albert Street, Ottawa, Ontario, K1R 1B1. Telephone: (613) 563-1236, e-mail: awards@aucc.ca, Web: www.aucc.ca.

### Emergency Preparedness Canada Research Fellowship

A fellowship to support research and training in disasters and emergency planning in Canada is offered for graduate study in any appropriate department. This fellowship is valued at $13,500 (Canadian funds) per annum. Apply by March 28 to International and Canadian Programs Division, Association of Universities and Colleges of Canada (AUCC), Suite 600, 350 Albert Street, Ottawa, Ontario, K1R 1B1. Telephone: (613) 563-1236, e-mail: awards@aucc.ca, Web: www.aucc.ca.

### National Health Research and Development Program

Awards are available to encourage and support the creation of cadres of highly competent researchers. Apply to Health Promotion and Programs Branch, Health Canada, Jeanne Mance Building, Tunney's Pasture, Ottawa, Ontario, K1A 1B4. Telephone: (613) 954-8549; Web: www.hc-sc.gc.ca/iacb-dgiac/nhrdp. Deadline: February 27.

### Natural Sciences and Engineering Research Council of Canada

NSERC offers postgraduate awards to assist students pursuing graduate study and research leading to advanced degrees. Post-doctoral fellowships for those wishing to add to their experience by specialized training are also available. These scholarships and fellowships are awarded on the basis of high scholastic achievement and evidence of skill at research.

All correspondence should be addressed to: Natural Sciences and Engineering Research Council of Canada, 350 Albert Street, Ottawa, Ontario, K1A 1H5. Awards are restricted to Canadian citizens and permanent residents. Value: $17,300–19,100. Web: www.NSERC.ca. Application deadline: early October.

### Ontario Graduate Scholarships

The Government of the Province of Ontario provides 2000 graduate scholarships tenable at Ontario universities. Sixty awards are available to visa students. These scholarships are available to students in all disciplines and are tenable only at Ontario universities. Value: $15,000/academic year. Application forms may be obtained from your graduate unit or from Student Support, Ministry of Education and Training, P.O. Box 4500, Fourth Floor, 189 Red River Road, Thunder Bay, Ontario, P7B 6G9, or call

1-800-465-3957. Applications must be submitted to your graduate unit by the October deadline. Web: osap.gov.on.ca/eng/not_secure/OGS.htm.

**Ontario–Quebec Exchange Fellowships**
The two provincial governments will respectively award up to ten fellowships, with a value of $10,000 each for master's–level students and $12,000 for doctoral students. Ontario residents may obtain application forms from the Graduate Studies Office of any Ontario university or by contacting the Ontario–Quebec Exchange Fellowship Program, Student Support, Ministry of Education and Training, P. O. Box 4500, Fourth Floor, 189 Red River Road, Thunder Bay, Ontario, P7B 6G9. Toll free telephone: 1-800-465-3957. Deadline: end of January.
Web: osap.gov.on.ca/eng/not_secure/OQ.htm.

**Petro–Canada Graduate Research Award Program**
Up to four awards valued at $10,000 are awarded annually to candidates engaged in studies related to the petroleum industry.

Candidates must be Canadian citizens or permanent residents working towards a master's or doctoral degree in the sciences, engineering, social sciences, or business administration.

Applications are available from Canadian Awards Program, International and Canadian Programs Division, Association of Universities and Colleges of Canada (AUCC), Suite 600, 350 Albert Street, Ottawa, Ontario, K1R 1B1. Deadline: February 28. Telephone: (613) 563-1236, e-mail: awards@aucc.ca.

**Sir John A. Macdonald Graduate Fellowship in Canadian History**
The Government of the Province of Ontario makes available each year one fellowship of $8,500. The award is tenable for three years, making its maximum value $25,500. The fellowship is awarded to a candidate preparing to enter a Ph.D. program, but in exceptional circumstances may be awarded to a candidate preparing to enter a master's program. This fellowship is tenable only at an Ontario university and is awarded to a candidate who is a Canadian citizen resident in Ontario, undertaking graduate studies with a major emphasis on Canadian history.

Deadline: mid-March for students not currently registered in an Ontario university. Students who are currently registered should consult their graduate unit. Information and application at Web: osap.gov.on.ca/eng/not_secure/MAC.htm.

**Social Sciences and Humanities Research Council of Canada**
The SSHRC offers fellowships at the doctoral and post-doctoral level to students in the Humanities and Social Sciences disciplines. Detailed information is available at www.SSHRC.ca. Awards are restricted to Canadian citizens and permanent residents. Value: $17,700/academic year. Application deadline is set by graduate units in early October.

## 3. FELLOWSHIPS AWARDED BY OTHER OUTSIDE AGENCIES

**Viscount Bennett Fellowship**
Under the terms of a deed of gift to The Canadian Bar Association from The Right Honourable Viscount Bennett, the Viscount Bennett Trust Fund was established. Up to $20,000 may be paid annually as a fellowship for graduate study in law in an institution of higher learning to be approved by the committee. The fellowship is open to a Canadian citizen who has graduated from an approved law school in Canada or who at time of application is pursuing final year studies as an undergraduate student at an approved law school.

Applications must be submitted to the Senior Director of Communications, the Canadian Bar Association, Suite 902, 50 O'Connor Street, Ottawa, Ontario, K1P 6L2 by November 15. Telephone: (613) 237-2925 or 1-800-267-8860 ext. 154, e-mail: stephenh@cba.org., Web: cba.org/Awards/Viscount_bennett/.

**Doctoral Scholarship for Canadian Women**
**Kappa Kappa Gamma Foundation of Canada**
Awarded to a full-time female Ph.D. candidate in any discipline who is a Canadian citizen. Application available from the Fellowships and Loans Office. Deadline: January 31. Value $3,000.

**The Canadian Federation of University Women Fellowships**

| | |
|---|---|
| Margaret McWilliams Pre-doctoral Fellowship | $10,000 |
| Dr. Marion Elder Grant Fellowship | $ 9,000 |
| Beverley Jackson Fellowship | $ 3,000 |
| Professional Fellowship | $ 5,000 |
| 1989 Polytechnique Commemorative Award | $ 1,400 |
| Alice E. Wilson Award | $ 1,500 |
| Margaret Dale Philip Award | $ 1,000 |
| CFUW Memorial Award | $ 5,000 |
| La Bourse Georgette Lemoyne | $ 2,000 |

Candidates must be Canadian citizens or must have held permanent resident status for one year prior to submitting application.

Further information may be obtained from the Canadian Federation of University Women, 251 Bank Street, Suite 600, K2P 1X3, Telephone: (613) 234-8252; Web: www.cfuw.ca; and from the Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9.

Applications are available in July and must be submitted before November 15.

**Canadian Nurses' Respiratory Society Fellowships and Research Grants**
This award is available for master's or post-master's study in the clinical specialty of respiratory nursing in an approved program. Application should be made to The Canadian Lung Association, 3 Raymond Street, Suite 300, Ottawa, Ontario, K1R 1A3, before November 1. Telephone: (613) 569-6411. Web: www.lung.ca/research/

**The Chinese Canadian History and/or Culture Fellowship**
The fellowship is offered to a graduate or post-graduate student who intends to enrol at the University of Toronto and to engage in research in the history, cultural or social composition of a Chinese–Canadian community. The fellowship has a value of at least $6,000, and is funded by the Toronto Chinese Businessmen's Association and the Federation of Chinese Canadian Professionals (Ontario).

Selection of the fellowship recipient is based on academic achievement and on the nature and merit of the research proposal. In order to qualify for consideration, candidates must be fluent in a Chinese dialect. Apply to Admissions and Awards, University of Toronto, 315 Bloor Street West, Toronto, Ontario, M5S 1A3. Deadline: April 30.

**Delta Kappa Gamma World Fellowship**
The Delta Kappa Gamma Society International is an organization of professional women in the field of education. A fellowship for graduate study is offered to a female graduate student in the amount of US$4,000. To be eligible an applicant must be a female student from a country other than Canada or the United States studying under a student authorization. Applications are available from the Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9. Deadline: early December.

**Naomi Grigg Fellowship**
The fellowship is for full-time students in a master's or Ph.D. program in an area of gerontology. Maximum value: $7,500. For further information, contact Soroptimist International of Toronto, 135 Donlea Drive, Toronto, Ontario, M4G 2M7. Telephone: (416) 423-5796. Deadline: March 31.

**Heart and Stroke Foundation of Canada Nursing Research Fellowship**
The fellowship is open to nurses undertaking research in the cardiovascular or cerebrovascular fields leading to a master's or doctoral degree. Applications should be made to the Heart and Stroke Foundation of Canada, Research Department, 222 Queen Street, Suite 1402, Ottawa, Ontario, K1P 5V9, by March 15. Web: www.hsf.ca/research/guidelines/g-6.html

**IODE Scholarships**
A maximum of nine scholarships are awarded to candidates who are Canadian citizens, hold a first degree from a recognized Canadian university, and are enrolled in a doctoral program. Value: $12,000 for study in Canada; $15,000 for study overseas within the Commonwealth. Deadline: December 1. Information and applications available from the Head Office, IODE, Suite 254, 40 Orchard View Boulevard, Toronto, Ontario, M4R 1B9, (416) 487-4416, and the Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9.

**Kirshenblatt Memorial Scholarships**
Annual awards of $2,000 are available for study or research in a program related to gerontology or gerontological nursing. Applicants must be Canadian citizens or permanent residents intending to work in Canada. Applications are available from The Toronto Rehabilitation Institute, Research Administration Office, 550 University Avenue, Room 1202, Toronto, Ontario, M5G 2A2. Telephone: (416) 597-3081. Deadline: March 31.

**Maurice Legault Awards**
Nursing awards are offered by the Canadian Cancer Society to assist nurses to gain the special skills necessary in caring for cancer patients, and to encourage nurses to pursue a career in oncological nursing. For information and application forms write to the Director, Medical Affairs and Cancer Control, Canadian Cancer Society, Suite 200, 10 Alcorn Avenue, Toronto, Ontario, M4V 3B1. Deadline: October 15.

**MacKenzie King Travelling Scholarships and MacKenzie King Open Scholarship**
In the will of the late Right Honourable William Lyon MacKenzie King, provision was made to

award annually a number of MacKenzie King Travelling Scholarships and one MacKenzie King Open Scholarship.

The MacKenzie King Travelling Scholarships are open to graduates of any Canadian university for study either in the United States or the United Kingdom in the field of international or industrial relations (including the international or industrial aspects of law, history, politics, economics).

The MacKenzie King Open Scholarship is open to graduates of any Canadian university for study in Canada or elsewhere in any field.

Candidates are required to apply by February 1 to the Canadian university from which they have received, or will receive, their most recent degree. Applications are available from the School of Graduate Studies, Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9.

**Registered Nurses Foundation of Ontario (RNFO)**
The RNFO Foundation offers scholarships for graduate studies in nursing education. For scholarship details contact Denise King at RNFO Foundation, 438 University Avenue, Suite 1600, Toronto, Ontario, M5G 2K8, by February 28. Telephone: (416) 599-1925, ext. 212.

**The Roeher Institute Research Grants in the Field of Intellectual Disability**
Grants valued at up to $10,000 are made possible through the support of the Scottish Rites Charitable Foundation of Canada and are tenable in a broad range of fields relating to human services and intellectual disability. Applicants must be Canadian citizens or permanent residents in a full-time graduate program in a Canadian university. Candidates must state intent to pursue a future career in Canada. Deadline: April 30.

For application forms and further information contact the Roeher Institute, Kinsmen Building, York University, 4700 Keele Street, North York, Ontario, M3J 1P3. Telephone: (416) 661-9611.

## 4. LOANS, GRANTS, AND OTHER BURSARIES

**Graduate Students' Emergency Loan Fund**
This fund has been established in the School of Graduate Studies to assist full-time students to meet financial problems which could not have been anticipated. Full information is available from the Fellowships and Loans Office, 63 St. George Street.

**Ontario Student Assistance Program**
OSAP applications are available on the Web: osap.gov.on.ca. Also from Admissions and Awards, University of Toronto, 315 Bloor Street West, Toronto, Ontario, M5S 1A3, telephone: (416) 978-2190 and the School of Graduate Studies.

**School of Graduate Studies Travel Grants**
The grants are available to a limited number of doctoral students in the humanities (including the humanistic side of the Social Sciences) for research or study outside Canada.

Application forms are distributed to graduate coordinators in March, and additional forms and information may be obtained from the Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9. Applications available in March, deadline: mid-April.

**University of Toronto Bursary Assistance**
Bursaries are available to full-time graduate students on the basis of need. Special or part-time students are not eligible. Funding is limited and is specifically for emergencies arising from unforeseen circumstances. First year students are normally not eligible for consideration. Students with scholarship support or who are eligible for OSAP are normally not eligible for bursary funding. Application is through the departmental graduate coordinator.

**The University of Toronto Faculty Association Tuition Bursary Award**
One graduate student will be awarded up to $2,000 toward tuition and incidental fees. The bursaries can be renewed for up to four years conditional upon demonstrated need and satisfactory academic standing.

Applications are available in July at the Fellowships and Loans Office, 63 St. George Street, Toronto, Ontario, M5S 2Z9. Deadline: August 15.

## 5. TEACHING AND RESEARCH ASSISTANTSHIPS

For information concerning teaching and research assistantships, write directly to the Chair of the department concerned giving full particulars of academic training and experience.

## 6. STUDENT EXCHANGE PROGRAMS

**Ontario/Baden–Württemberg Student Exchange Program**
**Ontario/Rhône–Alpes Student Exchange Program**
Sponsored by the Ontario Ministry of Education and Training and either the Baden–Württemberg Ministry of Science and Art, Germany and/or the Region of Rhône–Alpes, France, these programs allow students to study at any Baden–Württemberg university or a Rhône–Alpes university for one academic year for transfer credit, subject to approval by the graduate coordinator of the graduate unit and the Associate Dean of the division. Graduate students in any field are eligible to apply, and a bursary is provided to offset travel costs. Proficiency in German is required for the Baden–Württemberg Program and proficiency in French for the Rhône–Alpes Program. Applications are accepted in the fall, and results will be announced the following spring. Information and applications are available at the International Student Exchange Office, Office of the Vice-President and Provost, Room 307K, Koffler Student Services Centre, 214 College Street, Toronto, Ontario, M5T 2Z9. Telephone: (416) 946-3138; e-mail: student.exchange@utoronto.ca.

**Graduate Exchange Agreement between the University of British Columbia, McGill University, Université de Montréal, and the University of Toronto**
The four universities wish to facilitate the exchange of graduate students for scholarly work and to take advantage of special facilities and courses which are available at these universities. It is agreed that each university, whenever feasible, will allow graduate students in good standing from one of the other three universities to register as exchange, visiting or special graduate students without paying fees at the institution being visited, except for student activity fees. Courses taken will be credited at the home institution and may amount to no more than 50% of the total program requirements. For further information contact the Office of the Student Services Coordinator at the School of Graduate Studies.

**Institutional Partnerships**
The University of Toronto is a partner to Kyoto University, Hong Kong University and Chinese University of Hong Kong, the University of the West Indies, and Humboldt. There are opportunities for student exchange. Contact the following office in September for information: International Student Exchange Office, Office of the Vice-President and Provost, Room 307K, Koffler Student Services Centre, 214 College Street, Toronto, Ontario, M5T 2Z9. Telephone: (416) 946-3138; e-mail: student.exchange@utoronto.ca. Applications due in December.

# 5

# General Information

In this section:

**Accessibility Services**
**Athletic and Physical Education Centre**
**Day Care**
**English Language and Writing Support**
**Equity Issues Advisory Group**
**Family Care Office**
**Graduate Employment Services**
**Graduate Students' Union (GSU)**
**Hart House**
**Health Service**
**Housing**
**International Student Centre (ISC)**
**Library System**
**Ombudsperson**
**Sexual Harassment**

## ACCESSIBILITY SERVICES

Programs and services for students with a disability

Accessibility Services
St. George Campus
Robarts Library
130 St. George Street
Toronto, Ontario
M5S 3H1
*Voice:* (416) 978-8060
*TDD:* (416) 978-1902
*Fax:* (416) 918-8246
*E-mail:* disability.services@utoronto.ca
*Web:* http://disability.sa.utoronto.ca

AccessAbility Resource Centre
University of Toronto at Mississauga
Room 1113, South Building
TDD/voice: (905) 828-5406
*Fax:* (905) 569-4366
*E-mail:* access@utm.utoronto.ca
*Web:* www.utm.utoronto.ca/~w3access

AccessAbility Services
University of Toronto at Scarborough
Room S302A
Voice/TTY: (416) 287-7560
*Fax:* (416) 287-7334
*E-mail:* ability@utsc.utoronto.ca
*Web*: www.utsc.utoronto.ca/~ability

### University Commitment

The University's statement of institutional purpose says, “The University of Toronto is dedicated to fostering an academic community in which the learning and scholarship of every member may flourish with vigilant protection for individual human rights, and a resolute commitment to the principles of equal opportunity.” The University makes every attempt to provide reasonable and appropriate accommodations to persons who have disabilities. Faculty and staff carry a responsibility for creating and maintaining an inclusive environment in their teaching and work settings and responding appropriately to requests for accommodation of a disability**.** Accessibility Services provides support and advice for faculty and staff regarding appropriate accommodations, information about disabilities, and community resources.

### Responsibilities of Students who have Disabilities

Students who request accommodations for their academic programs and related activities at the University are obligated to disclose their disabilities to the respective campus Service for Students with Disabilities and request accom-

modations in a timely manner to facilitate the implementation of support and services. Therefore, it is vitally important that students discuss their needs *as early as possible* in order to put accommodations in place. Students must present relevant and up-to-date documentation, as outlined on the Web site, from an appropriate health care professional.

**Support Services For Students**

There are offices on all three campuses working to facilitate the inclusion of students with disabilities and chronic health conditions into all aspects of university life. The focus is on skills development, especially in areas of self-advocacy and academic skills. Services are provided to students who have a physical, sensory, or learning disability, mental health disability, acquired brain injury, or chronic health condition, as well as students who have temporary disabilities such as a broken dominant arm.

The Service provides a wide range of support, including alternative test and examination arrangements, volunteer note-taking services, sign-language interpreters, on-campus transportation (St. George campus only), adaptive technology and assistive devices, learning disability assessments, information and resource materials on health conditions and disability-related issues, and liaison with academic and administrative offices within the University and with off-campus agencies.

To access the Service, students meet with a counsellor to discuss individual needs, accommodations, and strategies for success. Where appropriate, eligible students are referred to one of the staff professionals such as the Adaptive Technology Equipment Consultant, Learning Disability Specialist, or Occupational Therapist, for assessments to identify strategies and determine accommodations. Any information about a student's disability is confidential and is not shared outside the Service unless the student gives permission. Students are encouraged to meet and discuss their needs with their instructors.

**Bursary**

The Bursary for Students with a Disability (BSWD) is for students who have applied and established eligibility for OSAP. The BSWD helps students with disability-related costs while attending post-secondary institutions. To access the bursary, students meet with a Service counsellor on their campus. University alternate bursaries are also available for eligible support and services.

## ATHLETIC AND PHYSICAL EDUCATION CENTRE

55 Harbord Street
Toronto, Ontario
M5S 2W6

*Telephone:*

| | |
|---|---|
| Pre-recorded building hours and schedules | 978-3437 |
| Program information | 978-3436 |
| Varsity Blues Events information | 978-GAME (4263) |
| Court reservation | 978-3436 |
| Intramurals | 978-5845 |
| Intercollegiate Office | 978-3443 |
| Sports Medicine Clinic | 978-4678 |
| Varsity Arena and Stadium | 978-7388 |

*Web:* www.utoronto.ca/physical

The University of Toronto Athletic and Physical Education Centre (AC) is located on the southeast corner of Harbord Street and Spadina Avenue. All full-time and part-time students are automatically members of the AC through payment of incidental fees. U of T students are eligible to participate in the governance of the AC. The Council of Athletics and Recreation (CAR) is responsible for overall policy, including allocation of funds to program areas, staffing, and rental and fees. For more information on CAR and governance of the AC and Faculty of Physical Education and Health, contact the council secretary at (416) 978-2136.

The AC is an enormous facility with spaces and programs for students at all levels of physical skill and activity. Activity spaces include 12 squash courts; 3 swimming pools (50-metre, 25-yard, learn-to-swim); 200-metre indoor track; 8 gymnasia; weight training facilities; indoor tennis courts; a multi-purpose court for badminton, basketball, and volleyball; a dance studio; a cardio training area; and a stretch area.

Programs, activities, and services include over 30 free fitness classes a week; hundreds of hours of recreational activities; instruction classes in aquatics, dance and movement, and sport; kids programs; nutritional and strength consultation; personal trainers; fitness testing; and access to the David L. MacIntosh Sport Medicine Clinic. Graduate students are also eligible to participate in more than 60 intercollegiate and intramural sports. U of T students receive free access to all Varsity Blues regular season home games.

Detailed information about the AC's programs is available around campus, in the AC

Guide (published twice each year), and on the Web site.

The AC is operated by the Faculty of Physical Education and Health which also operates Varsity Arena and the front and back campus fields.

All students, regardless of skill level, ability, or area of interest, are encouraged to participate at the AC. The Faculty of Physical Education and Health is committed to developing, advancing, and disseminating knowledge about physical activity and health and their interactions through education, research, leadership, and the provision of opportunity.

## DAY CARE

The Margaret Fletcher Day Care Centre
100 Devonshire Place
Toronto, Ontario
M5S 2C9

*Telephone:* (416) 978-6725
*E-mail:* f.dobbin@utoronto.ca

The Margaret Fletcher Day Care Centre provides full day care for children 2˚ to 5 years of age of University of Toronto students, staff, and faculty.

The program offers activities from all areas of a preschool curriculum (art, sensory, math, science, language, constructive, drama). A vegetarian cuisine and escort service to the junior and senior kindergarten classes at Huron Street Public School are available.

For more information, contact the Supervisor, Francesca Dobbin.

## ENGLISH LANGUAGE AND WRITING SUPPORT (ELWS)

Dr. Jane Freeman, Director
Room 109, 63 St. George Street
School of Graduate Studies
University of Toronto
Toronto, Ontario
M5S 2Z9

*Telephone:* (416) 946-7314
*Fax:* (416) 978-4367
*Email:* jane.freeman@utoronto.ca
*Web:* www.sgs.utoronto.ca/english

The School of Graduate Studies has established an Office of English Language and Writing Support (ELWS) to provide professional development to graduate students who wish to improve their oral and written communication skills. ELWS offers individual consultations and a range of workshops and non-credit courses for both native and non-native speakers of English. Programs are free to registered graduate students. For course/workshop descriptions, or information on how to book an individual consultation, see the ELWS Web site at www.sgs.utoronto.ca/english.

## EQUITY ISSUES ADVISORY GROUP

*Web:* www.library.utoronto.ca/equity/

**Convenor, Equity Issues Advisory Group**
*Telephone:* (416) 978-3908/1259
*Fax:* (416) 971-2289

The Equity Issues Advisory Group is a coalition of offices charged with promoting the equality of all persons at the University of Toronto. Any member of the University community is invited to contact the appropriate office with questions or concerns.

**Accessibility Services**
Programs and services for students with a disability

Accessibility Services, St. George Campus
*Voice:* (416) 978-8060
*TDD:* (416) 978-1902
*Fax:* (416) 918-8246
*Web:* disability.sa.utoronto.ca

AccessAbility Resource Centre, U of T at Mississauga
TDD/voice: (905) 828-5406
*Fax:* (905) 569-4366
*Web:* www.utm.utoronto.ca/~w3access

AccessAbility Services, U of T at Scarborough
Voice/TTY: (416) 287-7560
*Fax:* (416) 287-7334
*Web*: www.utsc.utoronto.ca/~ability

More details about this office appear in a separate entry above.

**Community Safety Coordinator**
*Telephone:* (416) 978-1485
*Fax:* (416) 946-8296

**Coordinator for Lesbian, Gay, Bisexual, Transgendered, Queer Resources and Programs**
*Telephone:* (416) 946-5624
*Fax:* (416) 971-2037

**Diversity Relations Office, U of T at Mississauga**
*Telephone:* (905) 569-4716
*Fax:* (905) 569-4652

**Family Care Office**
*Telephone:* (416) 978-0951
*Fax:* (416) 946-5466
*E-mail:* family.care@utoronto.ca
*Web:* www.library.utoronto.ca/familycare

More details about this office follow in a separate entry below.

**Race Relations and Anti-Racism Initiatives Office**
*Telephone:* (416) 978-1259
*Fax:* (416) 946-8296

**Sexual Harassment, Education, Counselling and Complaint Office**
*Telephone:* (416) 978-3908
*Fax:* (416) 971-2289

More details about this office follow in a separate entry below.

**Status of Women Office**
*Telephone:* (416) 978-2757/2196
*Fax:* (416) 971-2295

## FAMILY CARE OFFICE

Koffler Student Services Centre, Main Floor
214 College Street
Toronto, Ontario
M5T 2Z9

*Telephone:* (416) 978-0951
*Fax:* (416) 946-5466
*E-mail:* family.care@utoronto.ca
*Web:* www.library.utoronto.ca/familycare

Many students balance family obligations with their studies. The University of Toronto is committed to fostering a family-friendly learning and working environment. The Family Care Office provides information, guidance, and referral services to students who require child care (facilities, programs, or subsidies), elder care, and assistance with other family matters. Additional services consist of support groups, a fathers' group and a series of workshops, including "Choosing Child Care that Works for Your Family" and "Financial Survival for Student Families". The Family Care Office maintains a resource centre containing practical material on family issues ranging from pregnancy and infant care to lesbian and gay parenting and caring for elderly family members. The resource centre also contains information on activities and facilities for university families on campus and in the community.

## GRADUATE EMPLOYMENT SERVICES

University of Toronto Career Centre
Koffler Student Services Centre
214 College Street
Toronto, Ontario
M5T 2Z9

*Telephone:* (416) 978-8000
*Web:* www.careers.utoronto.ca

The Career Centre has developed the following services to meet the career planning and employment needs of the graduate student population.

**Graduate Dossier Service**
The Graduate Dossier Service is a repository of information for doctoral candidates seeking academic positions. Responding to a request from a student or an institution, the student's curriculum vitae, confidential letters of reference, and university transcripts are mailed to prospective employer institutions. Further information and registration kits may be obtained from the Career Centre. This service is only offered on the St. George campus.

**Career Counselling/Career Talks**
Counsellors assist students one-on-one with career development plans. This includes identifying skills, clarifying options, and teaching students how to research occupations.

**Career Development and Employment Search Seminars**
A variety of seminars are available to assist graduate students with career planning, conducting an effective employment search, writing proper résumés, and preparing for employment interviews.

**Graduating Students Employment Service**
A number of Fortune 500 companies, government agencies, and organizations who anticipate their hiring needs six to eight months in advance arrive on campus to recruit the graduating class. The majority of these organizations are from the business and technical sectors and many express an interest in recruiting master's and doctoral students.

**Recent Graduates Employment Service**
Recent University of Toronto graduates seeking immediate full-time employment receive help developing a marketing plan. Employment opportunities represent a good cross-section of what is available in the current employment market.

**Career and Employment Information**
Graduate students are invited to visit the Career Centre's resource library which contains information on a wide range of careers and has an extensive employer section.

**Resume Clinic**
Students may have their résumés and covering letters reviewed before sending them out to potential employers. Appointments to review academic curriculum vitae are made directly with a career counsellor.

**Practice Interviews**
Students interested in fine-tuning their interview skills may schedule a 30-minute one-on-one session with a counsellor to receive valuable feedback and tips on how to improve their performance.

**Student Outreach Service**
Tailored career development presentations may be arranged and delivered at specific departments for groups of at least 30. For further information, contact Mary Giamos at (416) 978-8012 or at m.giamos@utoronto.ca

## GRADUATE STUDENTS' UNION (GSU)

16 Bancroft Avenue
Toronto, Ontario
M5S 1C1

*Telephone:* (416)978-2391,978-6233,978-8464
*Fax:* (416) 971-2362
*E-mail:* gsunion@chass.utoronto.ca
*Web:* www.utoronto.ca/gsunion

The GSU is located in the heart of the Earth Sciences Centre, between Spadina and Huron, just south of Willcocks Avenue.

The GSU is the student government representing the 10,000 full-time and part-time graduate students at U of T and OISE/UT. Payment of the incidental fee automatically entitles graduate students to membership in the Union and to full use of all facilities and services.

The GSU provides a wide range of services for graduate students, including political representation at all levels of University government and assistance in cutting through bureaucratic red tape.

*Supplementary Health Insurance Plan:* All full-time students paying GSU fees are covered. The plan pays for 80% of prescription drugs plus other benefits. Dental coverage is available only if dental care is required as the result of an accident. In September (or January for students starting then), students may purchase family coverage or opt out if they have equivalent coverage. See our Web site for details.

*The GSU Pub*, fully licensed and non-profit, is open from noon until midnight, Monday to Friday. (416) 978-8466.

*Sylvester's Café* (upstairs in the GSU), open between 9:00 a.m. and 3:00 p.m., serves delicious, inexpensive hot and cold lunches and snacks. Catering is available. (416) 978-5247.

*The GSU Gym* may be booked for basketball, badminton, and volleyball. Space may be booked on the last Thursday of the month (for the following month) from 10:00 a.m. (416) 978-2391.

*Fantastic Book Sales:* Two a year (Fall and Spring). Call for details. (416) 978-2391.

*Graduate Course Unions* are organized by students within every department (over 70) and are funded by the GSU. Students elect a representative to attend GSU Council which meets eight times a year.

*The GSU Executive* is elected every March and consists of five officers: President, Vice-President (Internal), Vice-President (External), Secretary, and Treasurer. Four Executive Members-At-Large are elected by the GSU Council.

*The GSU Office Staff* keep the GSU running smoothly. They help with course union organizing, student appeals, dissemination of information, political lobbying, and much more.

*Publications:* Annual Handbook.

*CUPE 3902* (Canadian Union of Public Employees) represents graduate students who hold a teaching assistantship. The office is at 180 Bloor Street West, Room 902. (416) 593-7057.

## HART HOUSE

*Telephone:* (416) 978-2452
*Fax:* (416) 978-8387
*Web:* www.utoronto.ca/harthouse/

For the mind, body, and soul. A home-away-from-home for generations of students, Hart House is the social, recreational, and cultural centre of the St. George campus. University of Toronto graduate students are automatically members.

Take advantage of a wide variety of events and programs, including classical and jazz concerts, formal debates, art exhibitions, literary events, and a full-service athletic facility. Hart House Theatre offers theatrical, film, music, dance, and spoken-word events. Relax by a fire in one of the many common rooms. Listen to music in the Record Room, read a magazine in the Reading Room, or browse the collection of Canadian poetry and short fiction in the Hart House Library. Recognized student groups may reserve rooms in the House for meetings or special events.

Hart House has over 30 clubs and committees catering to a diverse range of interests including art, archery, bridge, chess, choral singing, a cultural exchange to Finland, debating, drama, film, interfaith dialogue, investment, jazz, masters swimming, orchestra, photography, rifle and revolver, SCUBA, and string and wind ensemble music. Contact the Hall Porters' Desk at (416) 978-2452 to find out more about club and committee membership. Hart House, and all of its clubs and committees, are governed by students.

Athletic facilities include a pool, indoor track, Nautilus machines, exercise bikes, treadmills, Stairmasters, rowing machines, squash courts, a gymnasium, a fully-equipped weight room, a massage clinic, and modern locker rooms. Athletics programming includes dance, martial arts, yoga, pilates, aquatics, and a full fitness class line-up. Fitness assessment and personal training services are available. Contact Athletics at (416) 978-2447.

The Hart House Farm is situated on 150 acres in the Caledon Hills, just northwest of the city, and is available to graduate student members and their families for hiking, swimming, cross-country skiing, and overnight camping. Seasonal Farm events include Cider and Song in the fall and Sugaring Off, a maple syrup festival, in the spring. For information, call (416) 978-2447.

The Hart House Permanent Collection is one of the most valuable collections of Canadian art. Pieces from the collection are displayed throughout the House. The Justina M. Barnicke Gallery hosts exhibitions from the Permanent Collection twice annually and from contemporary Canadian artists throughout the year.

Food services are available at two locations in Hart House. The Arbor Room serves healthy, affordable food in a casual setting. The Gallery Grill, located on the second floor, features fresh cuisine and excellent restaurant service. Other services include The Hair Place and the Hart House store.

Hart House is open 365 days a year. Check the weekly column in *The Varsity*, or our Web site at www.utoronto.ca/harthouse/. There is life outside the classroom!

## HEALTH SERVICE

**Health Service Clinic**
Koffler Student Services Centre
214 College Street, Second floor
Toronto, Ontario
M5T 2Z9

*Telephone:* (416) 978-8030
*E-mail:* health.services@utoronto.ca
*Web:* www.utoronto.ca/health
*Hours:* Monday to Friday 9:00 a.m. to 5:00 p.m.
Tuesday and Wednesday until 7:00 p.m.

The Health Service is for students and their partners. It offers comprehensive family physician care, health education and counselling, contraceptives sold at reduced rates, travel immunization and education, nutrition education, and referrals to specialists as required.

Student cards and health cards (e.g., OHIP, UHIP) are required.

**Psychiatric Service**
Koffler Student Services Centre
214 College Street, Main floor
Toronto, Ontario
M5T 2Z9

*Telephone:* (416) 978-8070
*Web:* www.utoronto.ca/psychservices
*Hours:* Monday to Friday 9:00 a.m. to 5:00 p.m.
Wednesday 9:00 a.m. to 7:00 p.m.

The Psychiatric Service offers assessment and/or treatment for students with emotional and psychological concerns. The clinical staff possess expertise in a wide variety of therapeutic methods including individual, couple, and group psychotherapy. The service is confidential and fully covered by OHIP/UHIP and other provincial health plans.

To make an appointment, please telephone or visit the department in person.

A Supplementary Health Insurance plan is provided by the graduate Students' Union (GSU) for full-time graduate students. Information is available on the GSU and Health Service Web sites.

## HOUSING

### University Student Housing

***St. George Campus***
University of Toronto Student Housing Service
Koffler Student Services Centre
214 College Street
Toronto, Ontario
M5T 2Z9
*Telephone:* (416) 978-8045
*Fax:* (416) 978-1616
*E-mail:* housing.services@utoronto.ca
*Web:* eir.library.utoronto.ca/StudentHousing

University of Toronto Student Family Housing
Koffler Student Services Centre
214 College Street
Toronto, Ontario
M5T 2Z9
*Telephone:* (416) 978-8049
*Fax:* (416) 946-5466
*E-mail:* family.housing@utoronto.ca
*Web:* eir.library.utoronto.ca/StudentHousing

***Mississauga Campus***
Residence Centre
3359 Mississauga Road
Mississauga, Ontario
L5L 1C6
*Telephone:* (905) 828-5286
*Fax:* (905) 828-5473
*E-mail:* resinfo@credit.erin.utoronto.ca
*Web:* www.erin.utoronto.ca/services/res/index.html

***Scarborough Campus***
Student Housing and Residence Life
1265 Military Trail
Scarborough, Ontario
M1C 1A4
*Telephone:* (416) 287-7365
*Fax:* (416) 287-7667
*E-mail:* residences-office@scar.utoronto.ca
*Web:* www.scar.utoronto.ca/~residences/

The University of Toronto Student Housing Service in the Koffler Student Services Centre is a year-round source of up-to-date off-campus housing and residence information as well as other information a student might need to assist in locating and arranging suitable student housing. Students needing more information about student housing options should contact the Student Housing Service or visit the Web site.

*On-Campus Single Student Residences*
Residences for single, graduate, and undergraduate students are located on all three campuses. If you are interested in applying to one or more residences, contact the individual residence offices directly to inquire about the specific application process. Because demand for residence space is high, it is important to *apply early*—if possible, *before* you are admitted to the University. Visit the Student Housing Web site for details on the various residences available to graduate students, or come to the Student Housing office on the St. George campus, where students may speak with staff or use the Residence Information Computer Terminal.

*Student Family Housing*
Family housing is available in 710 apartments on the St. George campus and in 84 apartments on the Mississauga campus. Priority for these unfurnished apartments is given to student families. The term “family” refers to students residing with their dependent children and to childless couples in a permanent relationship. *Waiting periods for these apartments is currently 12 to 16 months*, depending on the time of year and the type of apartment requested. It is advisable to apply as soon as you are seriously considering attending the University—if possible *before* being given an offer of admission to the University. For more information or to apply, contact the Student Family Housing offices or visit the Web site.

*Off-Campus Housing*
The Student Housing Service maintains a registry of available off-campus housing advertised by private landlords and by students seeking others to room with them. The housing registry ads are available to students in the housing offices on all three campuses, as well as on the Web. Students search the ads in the registry as they would the classified section of a newspaper, locating accommodation to meet their needs. Students coming to Toronto from afar should arrange to stay in temporary accommodation while conducting their housing search. The Student Housing Service will provide a list of temporary accommodation on request.

Housing in Toronto is usually advertised approximately four to six weeks in advance of the date it becomes available for occupancy. It generally takes one to three weeks for a student to locate suitable accommodation,

depending on the type of housing desired and one's budget. For the fall and winter sessions, some students rent their long-term housing from August 1 or October 1, avoiding the September 1 occupancy date (which is popular with students at most post-secondary educational institutions in the city). At the Student Housing Service, students search by type of accommodation (i.e., room, bachelor apartment, house, etc.), area of the city, and price range. Free phone use is available for students to contact landlords. Since listed accommodation is not inspected, the quality cannot be estimated or guaranteed. Therefore it is *very important for students to meet with the landlord and inspect the premises before entering into any agreement*.

*Cost of Student Housing - Residence, Family Housing and Off Campus*
As a guideline, in the 2001/2002 school year, the cost of residence with a full meal plan was approximately $5,700 to $7,000 for the eight-month academic session. The cost of shared-apartment style residence with no compulsory meal plan was approximately $3,800 to $4,600. However, please note that residence fees for the upcoming school year are expected to rise. After paying an initial deposit, the balance of fees is usually paid in two instalments at the beginning of each of the four-month fall and winter sessions.

As of August 1, 2001, rent for the bachelor, one- and two-bedroom units located in the Student Family Housing complex located at 30/35 Charles Street West range from approximately $512 to $838 depending on the size of the unit, and is payable monthly. Students looking for rooms in shared houses or apartments off-campus should expect to budget $400 to $600 per month. A student requiring a private apartment off-campus usually pays $600 to $800, $750 to $1,000, or $1,000 to $1,400 for a bachelor, one-bedroom, or two-bedroom unit respectively. A three-bedroom house or apartment will usually rent for $1,500 to $2,000.

**Graduate House**

60 Harbord Street
Toronto, Ontario
M5S 3L1

*Telephone:* (416) 946-8888
*Fax:* (416) 946-8887
*E-mail:* admissions.gradhouse@utoronto.ca
*Web:* www.sgs.utoronto.ca/residencegradtwo

A newly-constructed residence stands as the western gateway to the University of Toronto on the north-east corner of Harbord Street and Spadina Avenue. Graduate House is home to both full-time students from the School of Graduate Studies and full-time students from six professional faculties (Dentistry, Law, Medicine, Nursing, OISE/UT, and Pharmacy). In managing Graduate House, the School of Graduate Studies is committed to providing its residents with an affordable and supportive environment conducive to both the pursuit of academic excellence and a fulfilling life experience.

Graduate House has a capacity of 437 beds in designs of three-bed or four-bed fully furnished suites. Most of the bedrooms within the suites are singles, though there are a few shared double bedrooms, as well as a few premium single bedrooms. Each suite contains bedrooms, bathrooms, a kitchen, and a living area. Residents are expected to do their own cooking and are responsible for cleaning their own suites. Graduate House is a completely non-smoking environment.

Occupancy fees are currently $565 per month per person for a single bedroom, $430 per month per person for a shared double bedroom, and $630 per month for a premium single bedroom. Occupancy fees include heat, light, water, air-conditioning, and high-speed internet access. All occupancy fees are subject to possible change as of May 1 each year.

For more information and application forms, e-mail admissions.gradhouse@utoronto.ca.

**Massey College**

4 Devonshire Place
Toronto, Ontario
M5S 2E1

*Telephone:* (416) 978-2891
*Fax:* (416) 946-7890
*E-mail:* ann.brumell@utoronto.ca
*Web:* www.utoronto.ca/massey/

Massey College is the only independent graduate college associated with the University of Toronto. It is interdisciplinary and provides a focus for graduate work and a congenial intellectual environment for the exchange of opinions and ideas. Its graduate members work in various branches of the humanities, sciences and professions, and come from all parts of Canada and around the world. The College's superb facilities are located centrally and are open twelve months a year. All rooms are

single and fully furnished. A meal plan is provided.

All applications must be addressed to the College Registrar/Admissions and must be completed and received by May 1. Admission is based on academic achievement, discipline and level of study, extracurricular activities, and general experience. Consideration is given to student representation from all academic disciplines and from professional programs such as law, medicine, and education. The College elects both resident and non-resident Fellows.

Contact the College Registrar/Admissions for further details.

## INTERNATIONAL STUDENT CENTRE—ISC

33 St. George Street
Toronto, Ontario
M5S 2E3

*Telephone:* (416) 978-2564
*Fax:* (416) 978-4090
*E-mail:* isc.information@utoronto.ca
*Web:* www.library.utoronto.ca/isc/

The International Student Centre promotes and supports international education and offers services, programs, and facilities for international students, students with international and/or intercultural interests, and students looking for education and work opportunities abroad. Located on the St. George campus, the ISC welcomes *all* students to use its lounges and meeting rooms on a casual basis to relax, study, have lunch, or meet with friends. Specific programs and services offered at ISC include advice and assistance on immigration and health insurance concerns, a newsletter, electronic listserv, cross-cultural programs, personal counselling, a buddy program, US visa service, trips and activities, and work/study information for Canadians wishing to go abroad.

## LIBRARY SYSTEM

*Telephone:* (416) 978-8450
*Fax:* (416) 978-7653
*E-mail:* utlink@library.utoronto.ca
*Web:* www.library.utoronto.ca

Researchers have access to approximately 14 million items in the library collections of the University of Toronto, making this resource the largest in Canada and the third ranked academic library in North America. The major portion of this collection is divided between the Gerstein Science Information Centre and the John P. Robarts Library for humanities and social science materials. As well, there is the Thomas Fisher Rare Book Library containing extensive special collections, the Engineering and Computer Science Library, the OISE/UT Library, the Pharmacy Library, and the Earth Sciences Library. A smaller portion of the collection is housed in over 30 libraries across the campus. Generally, these are in affiliated college libraries or in specialized collections representing such fields as law, physics, architecture, and dentistry.

Study space is provided in many of the libraries, and individual carrels, desks, and book lockers are available.

The library offers a wide variety of sophisticated information retrieval services. The library's computerized on-line information system provides access to the library's main collections, to various periodical indexes, to the catalogues of other major libraries throughout the world, and to 13,000 full-text electronic journals. In addition, on-line literature searching provides references from commercial databases to recently published books and articles in specific subject areas.

### Information Commons

The Scotiabank Information Commons, located on the first floor of the Robarts Library, is a focal point at the University for electronic information access. Among many services, it offers media services, a design studio, and a help desk to support Internet and electronic mail access for all faculty, staff, and students.

### Resource Centre for Academic Technology (RCAT)

RCAT, located on the fourth floor of the Robarts Library, facilitates the development of effective teaching, learning, and research strategies based on emerging computer technologies. It supports individuals with special needs through the advancement of accessible information technologies.

## OMBUDSPERSON

Office of the University Ombudsperson
Suite 161, 222 College Street
Toronto, Ontario
M5T 3J1

*Telephone:* (416) 978-4874
*Fax:* (416) 978-3439
*E-mail:* ombuds.person@utoronto.ca
*Web:* www.utoronto.ca/ombudsperson

As part of the University's commitment to ensuring that the rights of its individual members are protected, the University Ombudsperson investigates complaints from any member of the University not handled through regular University channels. The Ombudsperson offers advice and assistance and can recommend changes in academic or administrative procedures where this seems justified. In handling a complaint, the Ombudsperson has access to all relevant files and information and to all appropriate University officials. The Ombudsperson handles all matters in strict confidence, unless the individual involved approves otherwise. The Ombudsperson is independent of all administrative structures of the University and is accountable only to the Governing Council.

## SEXUAL HARASSMENT EDUCATION, COUNSELLING, AND COMPLAINT OFFICE

Third Floor, 40 Sussex Avenue
Toronto, Ontario
M5S 1J7

*Telephone:* (416) 978-3908
*Fax:* (416) 971-2289
*Web:* www.library.utoronto.ca/equity/sxh.htm

The Sexual Harassment Education, Counselling, and Complaint Office administers the University's Sexual Harassment Policy by providing advice, education, and information to the university community; counselling all parties to complaints; and mediating complaints about harassment based on sex or sexual orientation.

The Policy covers all members of the University. The complaint process is confidential. The office is on the St. George campus; however, the Sexual Harassment Officer visits the U of T at Mississauga and U of T at Scarborough campuses on a regular basis. Call to schedule an appointment; arrangements may be made to meet on your campus.

# 6 Course Codes

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

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

**Glossary of Course Codes**
***Primary codes*** denote courses where one academic unit has responsibility for offering the course.
***Joint codes*** denote courses where two or more graduate units participate to offer the course.

***Primary Course Codes***

AEC Adult Ed., Community Dev. & Counselling Psych.
AER Aerospace Sci. & Eng.
AGE Human Dev., Life Course & Aging
ANA Anatomy & Cell Biology
ANT Anthropology
ARC Architecture, Landscape, and Design
ASI Asia-Pacific Studies
AST Astronomy and Astrophysics
BCH Biochemistry
BKS Book History & Print Culture
BME Biomedical Eng.
BOT Botany
BTC Biotechnology
C&T McLuhan Program in Culture & Tech.
CHE Chemical Eng. & Appl. Chem.
CHL Public Health Sci.
CHM Chemistry
CIV Civil Eng.
CLA Classics
COL Comparative Lit.
CRI Criminology
CSC Computer Sci.
CTL Curriculum, Teaching & Learning
DEN Dentistry
DMI Design and Manufacturing, Advanced
DRA Drama
EAS East Asian Studies
ECE Electrical & Computer Eng.
ECO Economics
EDE Environmental Eng.
EDT Education (OISE/UT)
ENG English
EXS Exercise Sci.
FAH History of Art
FIS Information Studies
FOR Forestry
FRE French Lang. & Lit.
GER Germanic Langs. & Lits.
GGR Geography
GLG Geology
HAD Health Policy, Management & Evaluation
HDP Human Dev. & Appl. Psych.
HIS History
HPS Hist. & Phil. of Sci. & Tech.
IES Environmental Studies
IMM Immunology
IRE Industrial Relations
ITA Italian Studies
LAW Law
LIN Linguistics
LMP Laboratory Medicine & Pathobiology
MAT Mathematics
MBP Medical Biophysics
MGT Management
MIE Mechanical & Industrial Eng.
MMG Molecular & Medical Genetics
MMS Materials Sci. & Eng.
MPL Microbiology
MSA Spatial Analysis
MSC Medical Sci.
MSL Museum Studies
MST Medieval Studies
MUS Music
NMC Near & Mid. Eastern Civilizations
NFS Nutritional Sci.
NUR Nursing Sci.
OCT Occupational Therapy
PAS Addiction Studies
PCL Pharmacology
PHL Philosophy
PHM Pharmaceutical Sci.
PHT Physical Therapy
PHY Physics
PLA Planning
POL Political Sci.
PSL Physiology
PSY Psychology
REH Rehabilitation Sci.
RLG Religion
RUS Russian & East European Studies
SAS South Asian Studies
SEM Semiotics
SES Sociology & Equity Studies in Ed.
SLA Slavic Langs. & Lits.
SLP Speech-Language Pathology
SOC Sociology
SPA Spanish
STA Statistics
SWK Social Work
TPS Theory & Policy Studies in Ed.
URD Urban Design
ZOO Zoology

***Joint Course Codes***

JAA Anthropology/South Asian Studies
JAB Anthropology/Botany
JAC Anthropology/Culture & Technology
JAH Anthropology/History
JAI Classics/History of Art/Near & Mid. Eastern Civilizations
JAL Anthropology/Linguistics

JAM Anthropology/Materials Sci. & Eng.
JAP Anthropology/Psychology
JAS Anthropology/Sociology
JAZ Anthropology/Zoology
JBB Biochemistry/Medical Biophysics/ Molecular & Medical Genetics
JBE Botany/Environmental Studies
JBF Botany/Forestry
JBI Biochemistry/Immunology
JBL Biochemistry/Laboratory Medicine & Pathobiology
JBM Botany/Microbiology
JBP Management/Political Sci.
JBZ Biochemistry/Botany/Zoology
JCA Anthropology/Russian & East European Studies
JCB Biomedical Engineering/Chemical Eng. & Appl. Chem.
JCC Chemical Eng. & Appl. Chem./Civil Eng.
JCF Chemical Eng. & Appl. Chem./Forestry
JCH Chemical Eng. & Appl. Chem./Chemistry
JCI Chemical Eng. & Appl. Chem./Mechanical & Industrial Eng.
JCL Laboratory Medicine & Pathobiology/ Medical Sci.
JCM Chemical Eng. & Appl. Chem./Public Health Sci.
JCN Civil Eng./Environmental Studies
JCP Classics/Hist. & Phil. of Sci. & Tech.
JCT Curriculum, Teaching & Learning/Theory & Policy Studies in Ed.
JCV Cardiovascular Sci.
JDA Anthropology/Dentistry
JDB Anatomy & Cell Biology/Botany/Molecular & Medical Genetics/Zoology
JDE Graduate Engineering Departments
JEB Biomedical Eng./Elect. & Computer Eng.
JEC Environmental Studies/Public Health Sci.
JEH English/History
JEI Environmental Studies/Mechanical & Industrial Eng.
JEL Electrical & Computer Eng./Mechanical & Industrial Eng.
JEM Electrical & Computer Eng./Materials Sci. & Eng.
JEN Chemical Eng. & Appl. Chem./Materials Sci. & Eng./Mechanical & Industrial Eng.
JEP English/Philosophy
JER English/Religion
JES East Asian/South Asian Studies
JFC Comparative Lit./French Lang. & Lit.
JFE Engineering/Forestry
JFG Forestry/Geography
JFK Medical Sci./Pharmaceutical Sci./ Pharmacology
JGE Environmental Studies/Geography
JGN Environmental Studies/Geology
JGP Geology/Physics
JHA History/South Asian Studies
JHC Curriculum, Teaching & Learning/Human Dev. & Appl. Psych.
JHL Comparative Lit./History
JHP History/Political Sci.
JIC Comparative Lit./Italian Studies
JIL Italian/Linguistics
JIP Economics/Near & Middle Eastern Civilizations
JLE Comparative Lit./English
JLM Linguistics/Mathematics
JLP Linguistics/Psychology
JMA Civil Eng./Mechanical & Industrial Eng.
JMC East Asian/History/Political Sci.
JME Education/McLuhan Program
JMH Hist. & Phil. of Sci. & Tech./Medieval Studies
JMI Italian Studies/Music
JMM Biomedical Eng./Mechanical & Industrial Eng.
JMP Mathematics/Philosophy
JMT Classics/Medieval Studies
JMY Chemistry/Materials Sci. & Eng.
JMZ Materials Sci. & Eng./Mechanical & Industrial Eng.
JNC Chemical Eng. & Appl. Chem./ Environmental Studies
JNH Nursing Sci./Public Health Sci.
JNP Environmental Studies/Pharmaceutical Sci./Pharmacology
JNR Anatomy & Cell Biology/Biochemistry/ Pharmacology/Physiology
JNS Anatomy & Cell Biology/Psychology
JPA Anthropology/Physics
JPB Biomedical Eng./Physiology
JPC Public Health Sci./Political Sci.
JPD Political Sci./Sociology
JPE Economics/Political Sci.
JPG Geography/Planning
JPH Hist. & Phil. of Sci. & Tech./Philosophy
JPI Immunology/Laboratory Medicine & Pathobiology
JPJ Law/Political Sci.
JPL Law/Philosophy
JPM Medical Sci./Pharmacology
JPN Environmental Studies/Physics
JPP Philosophy/Political Sci.
JPR Physiology/Zoology
JPS Astronomy/Physics
JPT Education/Philosophy
JPV Environmental Studies/Political Sci.
JPX Education/Nursing Sci./Psychology/ Social Work
JPW Women's Studies
JPY Pharmaceutical Sci./Pharmacology
JPZ Microbiology/Zoology
JRL Linguistics/Romance Langs.
JRX Chemistry/Pharmaceutical Sci.
JSB Biomedical Eng./Public Health Sci.
JSC Criminology/Social Work

| | |
|---|---|
| JSE | Environmental Studies/Sociology |
| JSL | Law/Social Work |
| JSP | Philosophy/Psychology/Sociology |
| JSS | Biomedical Communications/Sheridan |
| JST | Computer Sci./Statistics |
| JTC | Chemical Eng. & Appl. Chem./Materials Sci. & Eng. |
| JTE | Curriculum, Teaching & Learning/ Sociology & Equity Studies in Ed. |
| JTH | Ethnic & Pluralism Studies |
| JUS | Anatomy & Cell Biology/Laboratory Medicine & Pathobiology/Medical Biophysics/Microbiology |
| JVP | Environmental Studies/Philosophy |
| JYG | Molecular & Medical Genetics/ Pharmacology/Physiology |
| JZB | Botany/Zoology |
| JZP | Psychology/Zoology |

**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:

**1** Fall Session (September to December and designated YEAR9)

**2** Winter Session (January to May and designated YEAR1)

**3** Summer Session (May to August and designated YEAR5).

**Alphabetical Character Following Course Number**

| | |
|---|---|
| Y | Full Course |
| H | Half-Course |
| º | Indicator used to identify specific courses which may continue over a program. The course is graded when completed. |

Y and H courses may be offered in either the Fall or Winter Sessions or spread over both. Please consult departmental timetables for details.

(CR/NCR) following course title indicates Credit/ No Credit

# 7 **Graduate Faculty**—Full Members and Members Emeriti

There are three categories of graduate faculty. Section 7 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 – see Section 8.

For more details about each faculty member's appointment category, degrees, honours, and chairs held, consult the graduate unit entry in Section 8 of the SGS Calendar. Information is also available on the SGS Web site (www.sgs.utoronto.ca).

J. P. D. Abbatt/Chemistry
M. M. Abdelhaleem/Laboratory Medicine & Pathobiology
A. H. Abdelmessih/Mechanical & Industrial Engineering
T. S. Abdelrahman/Electrical & Computer Engineering
S. M. Abel/Medical Science
M. G. AbouHaidar/Botany
R. G. Abraham/Astronomy and Astrophysics
R. Abramovitch/Psychology
P. A. Abrams/Zoology
J. Abray/History
R. D. Accinelli/History
S. Acker/Sociology & Equity Studies in Education
T. H. Adamowski/English
B. J. Adams/Civil Engineering
S. L. Adamson/Medical Science
K. Adeli/Laboratory Medicine & Pathobiology
E. Adler/Political Science
D. Affonso/Nursing Science
A. Agrawal/Botany
W. Aide/Music
D. Ainslie/Philosophy
P. L. Aird/Forestry
P. D. Airhart/Religion
J. S. Aitchison/Electrical & Computer Engineering
J. L. Aitken/Curriculum, Teaching & Learning
V. A. Aivazian/Economics
S. C. Akbari/Medieval Studies
M. A. Akcoglu/Mathematics
V. H. Aksan/Near & Middle Eastern Civilizations
C. Alain/Psychology
C. Albanese/Mathematics
J. Allard/Medical Science
D. G. Allen/Chemical Engineering & Applied Chemistry
D. L. Allen/Mechanical & Industrial Engineering
D. P. H. Allen/Philosophy
J. P. B. Allen/Curriculum, Teaching & Learning
P. R. Allen/English
K. R. Allison/Public Health Sciences
R. Allon/Public Health Sciences
T. M. Alloway/Psychology
B. A. Alman/Medical Science
R. Almgren/Mathematics
V. Ambros/Slavic Languages & Literatures
T. L. Amburgey/Management
J. H. Amernic/Management
C. G. Amrhein/Geography
A. T. Anderson/Curriculum, Teaching & Learning
G. H. Anderson/Nutritional Sciences
G. J. Anderson/Economics
G. M. Anderson/Geology
G. M. Anderson/Health Policy, Management and Evaluation
J. B. Anderson/Botany
N. Anderson/Psychology
S. E. Anderson/Theory & Policy Studies in Education
M. C. B. Andrade/Zoology
E. G. Andrew/Political Science
B. J. Andrews/Molecular & Medical Genetics
D. F. Andrews/Statistics
R. C. Andrews/Civil Engineering
I. L. Andrulis/Molecular & Medical Genetics
H. M. Annis/Public Health Sciences
R. Anwar/Biochemistry
P. J. Apostoli/Philosophy
M. C. Archer/Nutritional Sciences
S. A. Argyropoulos/Materials Science & Engineering
E. K. Armatage/Drama
L. D. Armstrong/Medieval Studies
M. L. Arnold/Human Development & Applied Psychology
S. Arntzen/East Asian Studies
A. J. Arrowood/Psychology
C. Arrowsmith/Medical Biophysics
J. G. Arthur/Mathematics
S. L. Asa/Laboratory Medicine & Pathobiology
F. J. Asals/English
P. Ashby/Medical Science
N. Ashgriz/Mechanical & Industrial Engineering
M. J. Ashley/Public Health Sciences
S. Aster/History
J. H. Astington/English
J. W. Astington/Human Development & Applied Psychology
F. V. Atkinson/Mathematics
L. R. Atkinson/Psychology
L. Attisano/Anatomy & Cell Biology
H. L. Atwood/Physiology
I. Aubert/Laboratory Medicine & Pathobiology
J. E. Aubin/Anatomy & Cell Biology
K. T. Aust/Materials Science & Engineering
E. Auster/Information Studies
H. Auster/English
I. Averbakh/Management
A. A. Axelrad/Anatomy & Cell Biology
P. Axelrod/Theory & Policy Studies in Education

F. Bacchus/Computer Science
P. H. Backx/Medical Science
R. F. Badgley/Public Health Sciences
E. M. Badley/Public Health Sciences
R. M. Baecker/Computer Science
E.-J. Baek/East Asian Studies
D. M. Bagley/Civil Engineering
B. S. Baigrie/History & Philosophy of Science & Technology
D. C. Bailey/Physics
R. C. Bailey/Physics
A. D. Baines/Medical Science
W. D. Baines/Mechanical & Industrial Engineering
J. D. Baird/English
A. Baker/Medical Science
A. J. Baker/Zoology
G. R. Baker/Health Policy, Management and Evaluation
M. A. Baker/Medical Science
R. L. Baker/Zoology
R. R. Baker/Biochemistry
W. M. D. Baker/Economics
O. Bakich/Slavic Languages & Literatures
J. J. Balatinecz/Forestry
B. Baldus/Sociology
S. T. Balke/Chemical Engineering & Applied Chemistry
P. W. Ball/Botany
K. G. Balmain/Electrical & Computer Engineering
S. Bancheri/Italian Studies
E. B. Banning/Anthropology
B. Bapat/Laboratory Medicine & Pathobiology
R. Baraheni/Comparative Literature
H. E. Barbaree/Medical Science
E. J. Barbeau/Mathematics
D. Barber/Medical Biophysics
J. G. Barber/Social Work
B. L. Bardakjian/Electrical & Computer Engineering
D. Barham/Chemical Engineering & Applied Chemistry
J. S. Barker/Political Science
C. J. Barnes/Slavic Languages & Literatures
T. D. Barnes/Classics
J. M. Barnsley/Health Policy, Management and Evaluation
C. Barr/Medical Science
F. M. Barrett/Zoology
S. C. H. Barrett/Botany
L. R. Bartel/Music
K. R. Bartlett/History
N. Bascia/Theory & Policy Studies in Education
S. B. Bashevkin/Political Science
A. Bassett/Medical Science
J. N. Bassili/Psychology
R. A. Batey/Chemistry
J. A. C. Baum/Management
W. F. Bawden/Civil Engineering
C. E. Bayliss/Medical Science
D. Bazett-Jones/Biochemistry
D. Bazett-Jones/Medical Science
D. Beach/Music
C. E. Bear/Physiology
G. H. Beaton/Nutritional Sciences
J. M. Beattie/History
M. Beattie/Curriculum, Teaching & Learning
D. M. Beatty/Law
C. M. Beck/Curriculum, Teaching & Learning
R. L. Beck/Classics
A. J. Becker/Molecular & Medical Genetics
L. E. Becker/Laboratory Medicine & Pathobiology
J. Beckwith/Music
C. H. Bedford/Slavic Languages & Literatures
C. L. Beghtol/Information Studies
P. T. Begley/Theory & Policy Studies in Education
D. R. Begun/Anthropology
D. M. Behrens/Sociology
R. S. Beiner/Political Science
M. Beiser/Medical Science
J. H. Beitchman/Public Health Sciences
N. Bélanger/Sociology & Equity Studies in Education
R. S. Bell/Medical Science
D. F. Bellamy/Social Work
D. Belsham/Physiology
R. Ben Mrad/Mechanical & Industrial Engineering
Y. Ben-David/Medical Biophysics
S. R. Benatar/Public Health Sciences
S. Benchimol/Medical Biophysics
R. Bendayan/Pharmaceutical Sciences
M. Bendeck/Laboratory Medicine & Pathobiology
G. Bendzsak/Materials Science & Engineering
B. Benhabib/Mechanical & Industrial Engineering
H. D. Benjamin/Economics
P. J. Bennett/Psychology
A. Bennick/Dentistry
P. Benson/Law
G. E. Bentley Jr/English
C. J. Bereiter/Human Development & Applied Psychology
C. C. Berger/History
M. J. Berger/Curriculum, Teaching & Learning
S. Berger/Immunology
C. Bergeron/Laboratory Medicine & Pathobiology
N. L. Berinstein/Immunology
M. K. Berkowitz/Economics
T. Berleth/Botany
O. Berman/Management
W. C. Berman/History
A. Bernstein/Molecular & Medical Genetics
R. A. Berry/Economics
M. Bersohn/Chemistry
C. Bertrand-Jennings/French Language & Literature
A. J. Bewell/English
P. M. Bhatt/French Language & Literature

B. R. Bhavnani/Medical Science
K. Bickmore/Curriculum, Teaching & Learning
T. F. Bidleman/Chemical Engineering & Applied Chemistry
A. J. Biemiller/Human Development & Applied Psychology
E. Bierstone/Mathematics
A. Bilas/Electrical & Computer Engineering
R. I. Binnick/Linguistics
R. M. Bird/Management
R. J. Birgeneau/Physics
P. C. Birkemoe/Civil Engineering
R. Birla/History
E. Birnbaum/Near & Middle Eastern Civilizations
R. E. Bishop/Laboratory Medicine & Pathobiology
G. Bisztray/Slavic Languages & Literatures
M. L. Bjerknes/Anatomy & Cell Biology
D. L. Black/Philosophy
S. E. Black/Medical Science
J. R. Blackburn/Near & Middle Eastern Civilizations
J. Blackmore/Spanish
M. E. Blackstein/Medical Science
I. F. Blake/Electrical & Computer Engineering
T. J. Blake/Forestry
P. Blanchard/History
R. Blanchard/Medical Science
J. S. Bland/Mathematics
K. R. Blankstein/Psychology
B. J. Blencowe/Molecular & Medical Genetics
L. M. Blendis/Medical Science
M. Bliss/History
T. Bloom/Mathematics
E. Blumwald/Botany
M. Blute/Sociology
J. Bochow/Comparative Literature
J. P. Boddy/Anthropology
Y. M. Bodemann/Sociology
D. G. Bogdan/Theory & Policy Studies in Education
R. Bogert/Slavic Languages & Literatures
J. M. Boggs/Laboratory Medicine & Pathobiology
A. L. Bognar/Molecular & Medical Genetics
M. C. Bogo/Social Work
E. R. Bogoch/Medical Science
C. T. Bolton/Astronomy and Astrophysics
C. Bombardier/Health Policy, Management and Evaluation
J. F. Bonacci/Civil Engineering
J. R. Bond/Theoretical Astrophysics
R. Bonert/Electrical & Computer Engineering
A. J. Bonner/Computer Science
D. G. B. Boocock/Chemical Engineering & Applied Chemistry
H. Book/Medical Science
C. Boone/Molecular & Medical Genetics
R. Boonstra/Zoology
D. W. Booth/Curriculum, Teaching & Learning
L. D. Booth/Management
S. F. Borins/Management
A. B. Borodin/Computer Science
R. S. Bothwell/History
P. A. R. Bouissac/French Language & Literature
G. L. Boulianne/Molecular & Medical Genetics
P. I. P. Boulton/Electrical & Computer Engineering
L. S. Bourne/Geography
N. T. Boursier/French Language & Literature
C. Boutilier/Computer Science
B. M. Bowen/Pharmaceutical Sciences
W. R. Bowen/Music
D. R. Boyd/Theory & Policy Studies in Education
M. Boyd/Sociology
N. F. Boyd/Medical Science
J. M. Boyle/Philosophy
T. D. Bradley/Medical Science
D. R. Branch/Medical Science
L. Brandt/Economics
A. Braun/Political Science
D. J. S. Brean/Management
W. Brehaut/Theory & Policy Studies in Education
R. A. Bremner/Laboratory Medicine & Pathobiology
J. Brenan/Geology
D. Brenner/Statistics
M. Breton/Social Work
R. Breton/Sociology
J. Brill/Molecular & Medical Genetics
J. N. H. Britton/Geography
P. Brock/Russian & East European Studies
I. H. Broder/Medical Science
M. J. Bronskill/Medical Biophysics
A. G. Brook/Chemistry
T. J. Brook/History
D. Brooks/Rehabilitation Science
D. R. Brooks/Zoology
H. A. Brooks/History of Art
L. J. Brooks/Management
D. M. Broussard/Medical Science
A.-M. Brousseau/French Language & Literature
S. Broverman/Statistics
A. F. Brown/Theory & Policy Studies in Education
B. F. Brown/Philosophy
E. Brown/History
G. Brown/Biochemistry
G. M. Brown/Physiology
I. R. Brown/Zoology
J. R. Brown/Philosophy
M. Brown/Molecular & Medical Genetics
R. C. Brown/History
R. M. Brown/English
S. D. Brown/Electrical & Computer Engineering
T. J. Brown/Physiology
V. Brown/Medieval Studies
D. H. Brownfield/Sociology

J. Brownlee/History
M. Brownstone/Political Science
P. L. Brubaker/Physiology
W. R. Bruce/Nutritional Sciences
P. Brückmann/English
A. Brudner/Law
P. W. Brumer/Chemistry
B. Bruneau/Molecular & Medical Genetics
J. Brunnee/Law
L. J. Brunner/Statistics
J. L. Brunton/Laboratory Medicine & Pathobiology
C. F. Bruun/Classics
R. B. Bryan/Forestry
J. M. Bryant/Religion
R. J. Brym/Sociology
M. Buchwald/Molecular & Medical Genetics
R.-O. Buchweitz/Mathematics
L. T. Buck/Zoology
W. Buczynski/Music
B. J. Budurowycz/Slavic Languages & Literatures
G. F. J. R. Buick/Exercise Sciences
S. B. Bull/Public Health Sciences
M. Bunce/Geography
J. S. Burgess/Classics
R. C. Burgess/Dentistry
J. F. Burke/Spanish
W. M. Burnham/Pharmacology
G. Burns/Chemistry
P. N. Burns/Medical Biophysics
B. Burstow/Adult Education, Community Development & Counselling Psychology
E. N. Burstynsky/Linguistics
F. D. Burton/Anthropology
I. Burton/Geography
D. G. Butler/Zoology
P. H. Byer/Civil Engineering
P. N. Byrne/Public Health Sciences

D. R. Calder/Zoology
J. W. Callahan/Biochemistry
W. J. Callahan/History
J. L. Callen/Management
L. Calzavara/Public Health Sciences
N. Camerman/Biochemistry
D. R. Cameron/Political Science
E. M. Cameron/English
L. M. Cameron/Curriculum, Teaching & Learning
R. G. Cameron/Laboratory Medicine & Pathobiology
R. K. Cameron/Botany
D. F. Campbell/Sociology
E. Campbell/Theory & Policy Studies in Education
J. B. Campbell/Molecular & Medical Genetics
J. V. Canfield/Philosophy
R. Capozzi/Italian Studies
J. H. Carens/Political Science
R. G. Carlberg/Astronomy and Astrophysics
P. L. Carlen/Physiology
T. J. Carleton/Forestry
J. P. Carley/Medieval Studies
J. L. Carr/Economics
J. Carscallen/English
W. P. Carstens/Anthropology
M. W. Carter/Mechanical & Industrial Engineering
J. P. Carver/Molecular & Medical Genetics
F. R. Casas/Economics
F. I. Case/French Language & Literature
J. E. Caskey/History of Art
R. F. J. Casper/Medical Science
J. Caspersen/Forestry
J. R. B. Cassie/Adult Education, Community Development & Counselling Psychology
M. Cattral/Medical Science
D. C. Cattran/Medical Science
E. Cazdyn/East Asian Studies
C. E. Chaffey/Chemical Engineering & Applied Chemistry
A. Chakrabartty/Medical Biophysics
T. V. Chalikian/Pharmaceutical Sciences
J. H. H. Chalk/Mathematics
J. R. G. Challis/Physiology
J. W. Chamberlain/Immunology
J. E. Chamberlin/English
D. D. C. Chambers/English
J. K. Chambers/Linguistics
S. E. Chambers/Political Science
A. S. Chambon/Social Work
H. S. Chan/Biochemistry
H. S.-L. Chan/Medical Science
K. N. Chan/Music
V. L. Chan/Molecular & Medical Genetics
S. Chandra/Mechanical & Industrial Engineering
B. Chapman/Law
J. S. Chapman/Nursing Science
K. R. Chapman/Exercise Sciences
M. E. Charles/Chemical Engineering & Applied Chemistry
M. P. Charlton/Physiology
A. L. Chasteen/Psychology
M. Chazan/Anthropology
M. Chechik/Computer Science
M. A. Cheetham/History of Art
C. P. Chen/Adult Education, Community Development & Counselling Psychology
J. M. Chen/Geography
L. Chen/Mechanical & Industrial Engineering
R. Chen/Medical Science
S. Chenette/Music
H. Cheng/Anatomy & Cell Biology
Y.-L. Cheng/Chemical Engineering & Applied Chemistry
J. M. Cherry/Information Studies
J. J. Chew/Anthropology

M. H. Chignell/Mechanical & Industrial Engineering
J. Chin/Chemistry
M. L. Chipman/Public Health Sciences
H.-R. Cho/Physics
M.-D. Choi/Mathematics
C. W. Choo/Information Studies
N. K. Choudhry/Economics
P. Chow/Electrical & Computer Engineering
C. C. Christara/Computer Science
D. Christendat/Botany
C. Christopoulos/Civil Engineering
R. W.-H. Chu/East Asian Studies
C. S. Churcher/Museum Studies Program
S. Churchill/Curriculum, Teaching & Learning
G. Ciamaga/Music
D. Clandfield/French Language & Literature
A. G. Clark/Molecular & Medical Genetics
C. L. Clark/Music
D. Clark/Medical Science
D. A. Clarke/Mathematics
D. M. Clarke/Medical Science
E. A. Clarke/Public Health Sciences
G. E. Clarke/English
J. T. R. Clarke/Medical Science
W. H. Clarke/Astronomy and Astrophysics
S. H. E. Clarkson/Political Science
W. L. Cleghorn/Mechanical & Industrial Engineering
A. Clement/Information Studies
C. M. Clement/Astronomy and Astrophysics
M. J. Clement/Astronomy and Astrophysics
G. P. Clivio/Italian Studies
C. Cloutier-Wojciechowska/French Language & Literature
W. R. Cluett/Chemical Engineering & Applied Chemistry
A. L. Coates/Physiology
R. S. C. Cobbold/Electrical & Computer Engineering
D. Coburn/Public Health Sciences
I. Cochelin/History
A. W. Cochrane/Molecular & Medical Genetics
R. W. Cockerill/Health Policy, Management and Evaluation
R. F. Code/Physics
A. Cohen/Immunology
J. S. Cohen/Economics
M. M. Cohen/Health Policy, Management and Evaluation
R. S. Cohen/Curriculum, Teaching & Learning
Z. Cohen/Medical Science
A. Colantonio/Occupational Therapy
A. L. Cole/Adult Education, Community Development & Counselling Psychology
D. E. C. Cole/Laboratory Medicine & Pathobiology
E. H. Cole/Medical Science
W. G. Cole/Medical Science
J. R. Coleman/Botany
J. J. G. Coles/Medical Science
J. Colliander/Mathematics
D. H. Collins/Zoology
H. S. F. Collins/French Language & Literature
M. P. Collins/Civil Engineering
N. C. Collins/Zoology
R. A. Collins/Civil Engineering
R. A. Collins/Molecular & Medical Genetics
R. Comay/Philosophy
C. Conle/Curriculum, Teaching & Learning
F. M. Connelly/Curriculum, Teaching & Learning
P. W. Connelly/Biochemistry
C. Consani/Mathematics
D. B. Cook/Political Science
M. E. Cook/English
R. Cook/History
R. J. Cook/Law
S. A. Cook/Computer Science
R. J. Coombe/Anthropology
P. A. Cooper/Forestry
N. Copeland/Drama
J. H. Corbett/Religion
S. Cordes/Molecular & Medical Genetics
M. Corey/Public Health Sciences
P. N. J. Corey/Public Health Sciences
D. E. Cormack/Chemical Engineering & Applied Chemistry
B. Corman/English
D. G. Corneil/Computer Science
C. M. Corter/Human Development & Applied Psychology
B. Cossman/Law
C. A. Cott/Rehabilitation Science
G. G. Coupland/Anthropology
D. W. Courtman/Laboratory Medicine & Pathobiology
E. A. Cowper/Linguistics
B. Cox/Materials Science & Engineering
H. S. M. Coxeter/Mathematics
T. W. Coyle/Materials Science & Engineering
P. C. Coyte/Health Policy, Management and Evaluation
A. Cozea/French Language & Literature
B. H. Craig/Information Studies
D. M. Craig/Nursing Science
F. I. M. Craik/Psychology
A. M. Crawford/Civil Engineering
G. W. Crawford/Anthropology
J. H. G. Crispo/Management
A. R. Cruden/Geology
T. F. Cruz/Laboratory Medicine & Pathobiology
E. G. Csapo/Classics
F. Csillag/Geography
I. G. Csizmadia/Chemistry
M. J. A. Cuddy-Keane/English
J. G. Culotti/Molecular & Medical Genetics
A. H. Cumming/Curriculum, Teaching & Learning
J. P. Cummins/Curriculum, Teaching & Learning

W. R. Cummins/Botany
S. C. Cunnane/Nutritional Sciences
F. Cunningham/Philosophy
H. Cunningham/Anthropology
J. A. Cunningham/Psychology
J. A. Cunningham/Medical Biophysics
G. C. Cupchik/Psychology
J. H. Curran/Civil Engineering
D. C. Currie/Zoology
I. G. Currie/Mechanical & Industrial Engineering
M. D. Cusimano/Medical Science
J. Cuticchia/Medical Biophysics
S. Cutler/Botany
E. Cutz/Laboratory Medicine & Pathobiology
D. S. Cvitkovitch/Dentistry
M. I. Cybulsky/Laboratory Medicine & Pathobiology
H. Cyr/Zoology

J. R. D'Cruz/Management
G. M. T. D'Eleuterio/Aerospace Science & Engineering
A. Daar/Public Health Sciences
J. A. Dainard/French Language & Literature
J. Dainty/Botany
C. J. Damaren/Aerospace Science & Engineering
D. Daneman/Medical Science
M. Daneman/Psychology
M. Danesi/Spanish
R. J. Daniels/Law
A. G. Daniere/Geography
J. S. Danska/Immunology
D. C. Darling/Zoology
G. A. Darlington/Public Health Sciences
V. Darroch-Lozowski/Curriculum, Teaching & Learning
J. N. DaSilva/Pharmacology
A. Datnow/Theory & Policy Studies in Education
P.M. Daviau/Near & Middle Eastern Civilizations
A. R. Davidson/Molecular & Medical Genetics
L. E. Davie/Curriculum, Teaching & Learning
A. T. Davies/Religion
J. E. Davies/Dentistry
J. E. Davies/Materials Science & Engineering
S. W. Davies/Biomaterials & Biomedical Engineering
A. M. Davis/Geography
C. Davis/Mathematics
D. A. Davis/Health Policy, Management and Evaluation
D. W. Davis/Geology
J. E. Davis/Theory & Policy Studies in Education
K. Davis/Law
K. D. Davis/Medical Science
N. Davis/History
E. J. Davison/Electrical & Computer Engineering
F. P. Dawson/Electrical & Computer Engineering
R. B. Day/Political Science
T. Day/Zoology
J. C. S. de Azavedo/Laboratory Medicine & Pathobiology
U. De Boni/Physiology
H. B. de Groot/English
D. de Kerckhove/French Language & Literature
J. H. de Leeuw/Aerospace Science & Engineering
L. F. De Nil/Speech-Language Pathology
A. H. de Quehen/English
R. B. de Sousa/Philosophy
W. Dean/Geography
C. M. Deber/Biochemistry
R. B. Deber/Health Policy, Management and Evaluation
G. DeBoer/Medical Biophysics
K. Dehli/Sociology & Equity Studies in Education
G. J. S. Dei/Sociology & Equity Studies in Education
R. J. Deibert/Political Science
A. del Junco/Mathematics
J. D. DeLaurier/Aerospace Science & Engineering
N. G. Dengler/Botany
R. E. Dengler/Botany
J. W. Dennis/Molecular & Medical Genetics
M. Dennis/Medical Science
M. G. S. Denny/Economics
G. Denome/Laboratory Medicine & Pathobiology
J. Dent/History
D. A. Deporter/Dentistry
S. Der/Laboratory Medicine & Pathobiology
N. A. Derzko/Mathematics
R. C. Desai/Physics
M. Desjardins/Religion
J. R. Desloges/Geography
S. S. Desser/Zoology
A. S. Detsky/Health Policy, Management and Evaluation
G. M. Devins/Medical Science
S. B. Dewan/Electrical & Computer Engineering
M. J. Dewar/Classics
D. N. Dewees/Economics
A. Dhirani/Chemistry
E. P. Diamandis/Laboratory Medicine & Pathobiology
N. E. Diamant/Medical Science
C. T. P. Diamond/Curriculum, Teaching & Learning
M. L. Diamond/Geography
J. J. DiCenso/Religion
J. E. Dick/Molecular & Medical Genetics
B. M. Dickens/Law
S. Dickinson/Computer Science
T. A. Dickinson/Botany
F. DiCosmo/Botany
A. P. Dierick/Germanic Languages & Literatures
R. J. DiFrancesco/Geography
M. Dimnik/Medieval Studies
K. K. Dion/Psychology
K. L. Dion/Psychology
P. E. Dion/Near & Middle Eastern Civilizations

L. L. Diosady/Chemical Engineering & Applied Chemistry
P. Dirks/Laboratory Medicine & Pathobiology
M. F. N. Dixon/English
A. M. Dolan/Biomaterials & Biomedical Engineering
L. Dolezel/Slavic Languages & Literatures
M. Dolezelová/East Asian Studies
L.-A. Dolloff/Music
E. W. Domville/English
D. J. Donaldson/Chemistry
T. Donaldson/Religion
S. Done/Laboratory Medicine & Pathobiology
M. W. Donnelly/Political Science
P. A. Donnelly/Exercise Sciences
G. Donner/Nursing Science
A. N. Doob/Criminology
A. Dooley/Medieval Studies
D. Doran/Nursing Science
P. Dorian/Pharmacology
H.M. Dosch/Immunology
J. O. Dostrovsky/Physiology
L. E. Doucette/French Language & Literature
M. S. V. Douglas/Geology
E. W. Dowler/History
P. B. Downes/English
G. P. Downey/Medical Science
D. J. Doyle/Biomaterials & Biomedical Engineering
J. Drake/Medical Science
J. Drake/Biomaterials & Biomedical Engineering
T. E. Drake/Physics
J. A. Draper/Adult Education, Community Development & Counselling Psychology
B. E. Dresher/Linguistics
R. B. Drewitt/Anthropology
D. J. Drucker/Medical Science
J. R. Drummond/Physics
J.-C. Duan/Management
I. D. Dubé/Laboratory Medicine & Pathobiology
J. M. Ducharme/Human Development & Applied Psychology
D. G. Duff/Law
J. Duffin/Physiology
J. D. Duffy/English
A. J. Duggan/Law
D. J. Dumont/Medical Biophysics
D. W. Dunham/Zoology
K. Dunker/Architecture, Landscape, and Design
D. J. Dunlop/Physics
J. S. Dupré/Political Science
P. R. Durie/Medical Science
D. Durocher/Molecular & Medical Genetics
J. Dutka/English
H. L. Dyck/History
C. C. Dyer/Astronomy and Astrophysics
D. Dyzenhaus/Law
M. Eagle/Human Development & Applied Psychology
J. M. Eakin/Public Health Sciences
A. Eardley/Architecture, Landscape, and Design
L. M. Earl/Theory & Policy Studies in Education
S. M. Easterbrook/Computer Science
M. R. Eastwood/Public Health Sciences
A. C. Easty/Biomaterials & Biomedical Engineering
J. E. Eckenwalder/Botany
S. M. Eddie/Economics
A. Edwards/Medical Biophysics
E. A. Edwards/Chemical Engineering & Applied Chemistry
R. N. Edwards/Physics
S. E. Egan/Molecular & Medical Genetics
M. Eichler/Sociology & Equity Studies in Education
T. R. Einarson/Pharmaceutical Sciences
J. A. Eisenberg/Theory & Policy Studies in Education
K. Eisenbichler/Italian Studies
M. Eizenman/Biomaterials & Biomedical Engineering
M. Eksteins/History
R. el-Khoury/Architecture, Landscape, and Design
O. M. El-Mowafy/Dentistry
L. Eleen/History of Art
G. V. Eleftheriades/Electrical & Computer Engineering
R. P. Elinson/Anatomy & Cell Biology
R. Elitzur/Management
C. Elkabas/French Language & Literature
R. P. Ellen/Dentistry
E. W. Ellers/Mathematics
D. J. Elliott/Music
G. A. Elliott/Mathematics
R. Elliott/Music
J. Ellis/Molecular & Medical Genetics
K. A. A. Ellis/Spanish
H. P. Elsholtz/Laboratory Medicine & Pathobiology
A. Emili/Molecular & Medical Genetics
L. Endrenyi/Pharmacology
M. D. Engstrom/Zoology
W. H. Enright/Computer Science
S. Erb/Psychology
U. Erb/Materials Science & Engineering
B. H. Erickson/Sociology
P. G. Erickson/Sociology
D. L. Esch/English
J. Escobar/Spanish
M. D. Escobar/Public Health Sciences
G. S. Espie/Botany
M. J. Esplen/Nursing Science
J. M. Estes/History
C. R. Ethier/Mechanical & Industrial Engineering
D. Etiemble/Electrical & Computer Engineering
J. Eubanks/Medical Science
G. J. Evans/Chemical Engineering & Applied Chemistry
M. G. Evans/Management
M. J. Evans/Statistics

P. M. Evans/Social Work
I. A. Evreinov/Slavic Languages & Literatures
E. Ewan/Medieval Studies
N. Eyles/Geology
D. L. Eyoh/Political Science
G. E. Eyssen/Public Health Sciences
S. Ezzat/Medical Science

H. Fabrega/Anthropology
M. Faig/Economics
R. A. Falck/Music
A. G. Falconer/French Language & Literature
V. C. Falkenheim/Political Science
I. G. Fantus/Medical Science
J. K. Farge/Medieval Studies
D. H. Farrar/Chemistry
J. P. Farrell/Curriculum, Teaching & Learning
A. M. Fasick/Information Studies
D. C. F. Fayle/Forestry
P. J. Fedwick/Medieval Studies
M. G. Fehlings/Medical Science
A. Feinstein/Medical Science
B. Feldman/Health Policy, Management and Evaluation
W. Feldman/Public Health Sciences
R. G. Fenton/Mechanical & Industrial Engineering
G. T. Fenwick/English
B. Ferguson/Public Health Sciences
G. R. Fernie/Public Health Sciences
J. D. Fernie/History & Philosophy of Science & Technology
R. G. Ferrence/Public Health Sciences
J. M. Ferrier/Botany
F. G. Ferris/Geology
L. E. Ferris/Public Health Sciences
L. Fertuck/Management
A. Feuerverger/Statistics
G. Feuerverger/Curriculum, Teaching & Learning
F. E. Fich/Computer Science
E. D. Fillery/Dentistry
J. E. Filmus/Medical Biophysics
M. G. Finlayson/History
G. Firnau/Pharmaceutical Sciences
E. N. Fish/Immunology
B. T. Fitch/French Language & Literature
M. I. Fitch/Nursing Science
P. Fitting/French Language & Literature
E. L. Fiume/Computer Science
F. T. Flahiff/English
J. Flanagan/Medical Science
A. Fleming/Psychology
J. A. Fleming/French Language & Literature
P. L. Fleming/Information Studies
S. N. Flengas/Materials Science & Engineering
J. F. Fletcher/Political Science
P. J. Fletcher/Psychology
A. Flint/Medical Science
B. Flint/Human Development & Applied Psychology
J. S. Floras/Medical Science
J. E. Floyd/Economics
J. E. Foley/Psychology
P. J. Foley/Mechanical & Industrial Engineering
R. B. Folson/Sociology & Equity Studies in Education
E. W.-C. Fong/Sociology
D. K. Foot/Economics
H. D. Forbes/Political Science
L. W. Forguson/Philosophy
J. D. Forman-Kay/Biochemistry
C. R. Forrest/Medical Science
J. F. Forstner/Biochemistry
M.-J. Fortin/Zoology
F. S. Foster/MedicalBiophysics
F. R. Foulkes/Chemical Engineering & Applied Chemistry
B. J. Fox/Sociology
H. Fox/Religion
M. S. Fox/Mechanical & Industrial Engineering
G. Frame/Near & Middle Eastern Civilizations
A. Franceschetti/Italian Studies
B. A. Francis/Electrical & Computer Engineering
E. Franco/Medical Science
J. W. Frank/Public Health Sciences
R. A. Frank/Medieval Studies
U. M. Franklin/Materials Science & Engineering
L. Frappier/Molecular & Medical Genetics
C. G. Fraser/History & Philosophy of Science & Technology
D. A. S. Fraser/Statistics
S. J. Fraser/Chemistry
D. R. Frayne/Near & Middle Eastern Civilizations
R. C. Frecker/Biomaterials & Biomedical Engineering
J. J. L. Freedman/Medical Science
J. L. Freedman/Psychology
M. Freedman/Medical Science
S. E. Fremes/Medical Science
J. N. Frenette/Curriculum, Teaching & Learning
J. Friedland/Rehabilitation Science
M. L. Friedland/Law
J. B. Friedlander/Mathematics
R. Z. Friedman/Philosophy
H. Friedmann/Sociology
J. D. Friesen/Molecular & Medical Genetics
T. M. Friesen/Anthropology
J. Frim/Exercise Sciences
C. R. Fuerst/Molecular & Medical Genetics
M. G. Fullan/Sociology & Equity Studies in Education
J. H. Fullard/Zoology
E. Fuller-Thomson/Social Work
R. R. Fulthorpe/Botany
B. E. Funnell/Molecular & Medical Genetics
J. J. Furedy/Psychology
M. A. Fuss/Economics

G. Gad/Geography
A. Gagné/Curriculum, Teaching & Learning
H. Y. Gaisano/Medical Science
D. I. Galbraith/English
K. Gallagher/Curriculum, Teaching & Learning
B. L. Gallie/Molecular & Medical Genetics
S. Gallinger/Medical Science
N. T. Gallini/Economics
R. Gallop/Nursing Science
J. H. Galloway/Geography
P. E. J. Gamlin/Adult Education, Community Development & Counselling Psychology
J. Ganczarczyk/Civil Engineering
M. C. Ganoza/Molecular & Medical Genetics
R. Garber/Social Work
L. T. Gardner/Mathematics
P. E. Garfinkel/Medical Science
J. Gariepy/Medical Biophysics
R. F. Garrison/Astronomy and Astrophysics
M. J. Garson/English
R. I. Gartner/Sociology
D. Gastaldo/Nursing Science
D. P. Gauvreau/Civil Engineering
C. N. Genno/Germanic Languages & Literatures
S. R. George/Pharmacology
U. G. George/Social Work
D. Gérin-Lajoie/Curriculum, Teaching & Learning
L. P. Gerson/Philosophy
M. S. Gertler/Geography
M. Gervers/History
E. Geva/Human Development & Applied Psychology
A. Giacca/Physiology
R. Gibbs/Philosophy
D. L. Gibo/Zoology
M. Gieri/Italian Studies
V. Giguère/Molecular & Medical Genetics
A. R. Gillis/Sociology
J. R. Gillis/Adult Education, Community Development & Counselling Psychology
G. S. Gillison/Anthropology
Y. Gingras/History & Philosophy of Science & Technology
L. E. Girolametto/Speech-Language Pathology
J. Gittins/Geology
D. Gladman/Medical Science
R. Glazier/Health Policy, Management and Evaluation
R. J. Glickman/Spanish
J. Globerman/Social Work
J. Glover/Biochemistry
D. Godt/Zoology
V. Goel/Health Policy, Management and Evaluation
J. Goering/History
P. N. Goering/Nursing Science
W. Goetschel/Germanic Languages & Literatures
W. A. Goffart/History
M. C. Goh/Chemistry
M. Gold/Molecular & Medical Genetics
S. Goldberg/Psychology
A. A. Goldenberg/Mechanical & Industrial Engineering
G. J. Goldenberg/Pharmacology
D. Goldstein/Psychology
R. S. Goldstein/Medical Science
T. Goldstein/Curriculum, Teaching & Learning
D. Goldstick/Philosophy
L. V. Golombek/Near & Middle Eastern Civilizations
A. Gombay/Philosophy
P. W. Gooch/Philosophy
R. C. Goode/Exercise Sciences
J. M. Goodman/Exercise Sciences
L. S. Goodman/Exercise Sciences
M. S. Goodstadt/Public Health Sciences
R. M. Gorczynski/Immunology
M. J. Gordon/Management
D. R. Goring/Botany
M. P. Gorton/Geology
A. I. Gotlieb/Laboratory Medicine & Pathobiology
C. C. Gotlieb/Computer Science
M. Gotlieb/History of Art
J. J. Gottlieb/Aerospace Science & Engineering
W. A. Gough/Geography
C. Gourieroux/Economics
M. W. F. Grabinsky/Civil Engineering
C. L. Grady/Psychology
J. A. Graff/Philosophy
G. S. Graham/Computer Science
I. R. Graham/Mathematics
D. M. Grant/Pharmaceutical Sciences
J. N. Grant/Classics
S. Gray-Owen/Molecular & Medical Genetics
J. E. Graydon/Nursing Science
A. K. Grayson/Near & Middle Eastern Civilizations
R. I. C. Graziani/English
K. H. Green/Religion
G. R. Greenberg/Physiology
J. F. Greenblatt/Molecular & Medical Genetics
R. T. Greene/English
D. W. Greeno/Management
B. Greenwood/Geography
C. E. Greenwood/Nutritional Sciences
A. Greer/History
R. Gregor/Political Science
P. C. Greiner/Mathematics
P. Grendler/History
P. A. Griffin/Physics
F. J. C. Griffiths/Political Science
P. R. Grillo/French Language & Literature
S. Grinstein/Biochemistry
C. M. Grisé/French Language & Literature
A. Gross/Biomaterials & Biomedical Engineering
M. R. Gross/Zoology
C. P. T. Groth/Aerospace Science & Engineering

L. A. Grupp/Pharmacology
J. E. Grusec/Psychology
M. D. Grynpas/Laboratory Medicine & Pathobiology
K. A. Grzymski/Near & Middle Eastern Civilizations
F. Guardiani/Italian Studies
A. Guha/Medical Science
C. J. Guidos/Immunology
J. E. Guillet/Chemistry
R. W. L. Guisso/East Asian Studies
P. G. Gulak/Electrical & Computer Engineering
O. L. Gulder/Aerospace Science & Engineering
J. Gulsoy/Spanish
M. H. Gunderson/Economics
S. Günther/Near & Middle Eastern Civilizations
H. P. Gunz/Management
N. Gupta/Laboratory Medicine & Pathobiology
J. W. Gurd/Biochemistry
D. S. Guttman/Botany
I. Guttman/Statistics
M. A. J. Guttman/Adult Education, Community Development & Counselling Psychology
D. T. Gwynne/Zoology

A. A. Haasz/Aerospace Science & Engineering
D. Haché/Theory & Policy Studies in Education
I. M. Hacking/Philosophy
V. Hadzilacos/Computer Science
J. Hagan/Sociology
J. Haines/Music
M. L. Hair/Mechanical & Industrial Engineering
W. H. Halewood/English
B. S. Hall/History & Philosophy of Science & Technology
F. L. Hall/Civil Engineering
P. E. Hallett/Physiology
H. C. Halls/Geology
F. G. Halpenny/Information Studies
I. Halperin/Mathematics
J. S. Halperin/Mathematics
E. Halpern/History
P. J. N. Halpern/Management
P. A. Hamel/Laboratory Medicine & Pathobiology
G. C. Hamilton/Economics
L. F. Hamm/Exercise Sciences
M. F. Hammond/Sociology
D. R. Hampson/Pharmaceutical Sciences
G. Hanna/Curriculum, Teaching & Learning
M. E. Hannah/Health Policy, Management and Evaluation
L. Hannay/Theory & Policy Studies in Education
G. Hannigan/Laboratory Medicine & Pathobiology
J. A. Hannigan/Sociology
R. I. C. Hansell/Zoology
J. S. Hansen/Aerospace Science & Engineering
W. P. E. Haque/Mathematics
F. K. Hare/Geography
A. Hargreaves/Theory & Policy Studies in Education
B. Harley/Curriculum, Teaching & Learning
P. A. Harper/Pharmacology
A. Harrak/Near & Middle Eastern Civilizations
L. A. Harrington/Medical Biophysics
A. G. Harrison/Chemistry
R. V. Harrison/Medical Science
T.P. Harrison/Near & Middle Eastern Civilizations
E. B. Harvey/Sociology & Equity Studies in Education
E. D. Harvey/English
E. R. Harvey/English
H. H. Harvey/Zoology
L. D. D. Harvey/Geography
W. R. C. Harvey/Philosophy
C. A. Hasenkampf/Botany
L. Hasher/Psychology
J. E. F. Hastings/Health Policy, Management and Evaluation
D. Hatzinakos/Electrical & Computer Engineering
C. Hatzis/Music
E. Hauer/Civil Engineering
B. Havercroft/French Language & Literature
G. Hawker/Health Policy, Management and Evaluation
J. Hawkins/Music
S. Hawkins/History
S. A. Hawkins/Management
J. B. Hay/Immunology
R. Hayhoe/Theory & Policy Studies in Education
B. S. Hayne/English
A. di P. Healey/Medieval Studies
J. Heath/Philosophy
M. C. Heath/Botany
M. P. Heble/Mathematics
D. W. Hedley/Medical Biophysics
J. N. M. Heersche/Dentistry
O. Hegyi/Spanish
E. C. R. Hehner/Computer Science
T. Heim/Medical Science
E. A. Heinemann/French Language & Literature
G. W. Heinke/Civil Engineering
J. A. Hellebust/Botany
G. K. Helleiner/Economics
M. Heller/Sociology & Equity Studies in Education
R. J. Helmstadter/History
C. C. Helwig/Psychology
W. Hempel/Germanic Languages & Literatures
G. E. Henderson/English
G. S. Henderson/Geology
R. M. Henkelman/Medical Biophysics
J. G. Henry/Civil Engineering
W. A. Herington/Social Work
C. P. Herman/Psychology
P. R. Herman/Electrical & Computer Engineering
M. W. Herren/Medieval Studies
N. Herrmann/Medical Science

R. J. Heslegrave/Exercise Sciences
R. Hetherington/Psychology
C.-L. Hew/Laboratory Medicine & Pathobiology
D. Hewitt/Public Health Sciences
M. Hewitt/Religion
E. S. Hickcox/Theory & Policy Studies in Education
S. E. Hidi/Curriculum, Teaching & Learning
V. J. Higgins/Botany
D. C. Higgs/History
A. Hildyard/Theory & Policy Studies in Education
R. P. Hill/MedicalBiophysics
E. Hillan/Nursing Science
J. N. Hillgarth/Medieval Studies
K. W. Hindmarsh/Pharmaceutical Sciences
A. Hinek/Laboratory Medicine & Pathobiology
G. Hinton/Computer Science
G. Hirst/Computer Science
E. D. Hodnett/Nursing Science
D. Hodson/Curriculum, Teaching & Learning
F. S. D. Hoeniger/English
F. Hoff/East Asian Studies
R. C. Hoffmann/Medieval Studies
T. Hofmann/Biochemistry
J. A. Hogan/Psychology
D. Hogg/Medical Science
S. Hogg-Johnson/Public Health Sciences
C. W. V. Hogue/Biochemistry
B. Holdom/Physics
J. S. Holladay, Jr./Near & Middle Eastern Civilizations
J. W. Holland/Theory & Policy Studies in Education
S. Hollander/Economics
C. H. Hollenberg/Medical Science
D. Holman/Music
M. Holmes/Theory & Policy Studies in Education
D. L. Holness/Public Health Sciences
R. C. Holt/Computer Science
T. F. Homer-Dixon/Political Science
S. Hong/History & Philosophy of Science & Technology
A. D. Hood/History
F. C. Hooper/Mechanical & Industrial Engineering
R. D. Hooton/Civil Engineering
P. A. Horgen/Botany
R. Horner/Medical Science
G. Horowitz/Political Science
I. J. Horstmann/Management
S. Horton/Economics
A. J. Hosios/Economics
W. Houry/Biochemistry
J. H. House/Theory & Policy Studies in Education
C. J. Houston/Geography
K. W. F. Howard/Geology
W. J. Howard/English
L. C. Howarth/Information Studies
N. Howe/Human Development & Applied Psychology
N. L. Howell/Sociology
P. L. Howell/Biochemistry
S. K. Howson/Economics
J. J. Hsieh/Public Health Sciences
P.-C. Hsiung/Sociology
J. Hu/Laboratory Medicine & Pathobiology
J. W. Hu/Dentistry
M. Hubbes/Forestry
A. R. Hudson/Health Policy, Management and Evaluation
C. Hudson/Medical Science
A. Hughes/Music
P. C. Hughes/Aerospace Science & Engineering
T. Hughes/Molecular & Medical Genetics
C. -C. Hui/Molecular & Medical Genetics
J. D. Hulchanski/Social Work
J. C. Hull/Management
J. N. P. Hume/Computer Science
T. W. Humphries/Human Development & Applied Psychology
D. E. Hunt/Adult Education, Community Development & Counselling Psychology
J. W. Hunt/Medical Biophysics
V. F. Hurdle/Civil Engineering
T. Hurka/Philosophy
M. Husain/Laboratory Medicine & Pathobiology
L. A. M. Hutcheon/English
D. S. Hutchinson/Philosophy
R. C. Hutchinson/Religion
P. A. Hwang/Medical Science
D. E. Hyatt/Industrial Relations
M. L. Hyde/Speech-Language Pathology
J. A. Hynes/Economics

F. Iacovetta/History
A. A. Iannucci/Medieval Studies
M. Ichise/Medical Science
K. Iizuka/Electrical & Computer Engineering
M. Ikura/Medical Biophysics
R. A. Imlay/Philosophy
T. Inaba/Pharmacology
J. N. Ingham/History
C. J. Ingles/Biochemistry
R. D. Inman/Medical Science
B. C. Inwood/Classics
M. R. Iravani/Electrical & Computer Engineering
K. Ireton/Molecular & Medical Genetics
L. Iribarne/Slavic Languages & Literatures
H. H. Irving/Social Work
D. M. Irwin/Laboratory Medicine & Pathobiology
M. E. G. Irwin/Classics
W. W. Isajiw/Sociology
N. N. Iscove/MedicalBiophysics
J. Iseke-Barnes/Sociology & Equity Studies in Education
D. E. Isenman/Biochemistry
M. Israel/History

S. Ito/Pharmacology
J. R. Iton/Political Science
V. Ivrii/Mathematics
G. O. Ivy/Psychology

R. Jaakson/Geography
G. Jackowski/Laboratory Medicine & Pathobiology
D. A. Jackson/Zoology
H. J. Jackson/English
J. R. de J. Jackson/English
K. R. Jackson/Computer Science
N. Jackson/Adult Education, Community Development & Counselling Psychology
A. E. Jacobs/Physics
I. Jacobs/Exercise Sciences
A. Jadad/Health Policy, Management and Evaluation
S. B. Jaglal/Rehabilitation Science
M. Jain/Public Health Sciences
D. F. James/Mechanical & Industrial Engineering
D. M. James/Linguistics
H. N. Janisch/Law
W. Janischewskyj/Electrical & Computer Engineering
A. K. S. Jardine/Mechanical & Industrial Engineering
K. A. Jarvi/Medical Science
E. A. E. Jeauneau/Medieval Studies
K. N. Jeejeebhoy/Medical Science
R. L. Jefferies/Botany
L.C. Jeffrey/Mathematics
D. J. A. Jenkins/Nutritional Sciences
J. Jenkins/Human Development & Applied Psychology
E. Jennings/History
A. D. Jepson/Computer Science
M. A. S. Jewett/Medical Science
C. Q. Jia/Chemical Engineering & Applied Chemistry
T. Jin/Laboratory Medicine & Pathobiology
S. John/Physics
A. Johns/Linguistics
D. A. Johns/Electrical & Computer Engineering
C. J. Johnson/Speech-Language Pathology
R. E. Johnson/History
S. B. Johnson/Drama
W. McA. Johnson/History of Art
A. F. Johnston/English
G. S. Johnston/Music
G. W. Johnston/Aerospace Science & Engineering
K. W. Johnston/Biomaterials & Biomedical Engineering
M. G. Johnston/Laboratory Medicine & Pathobiology
A. R. Jones/Classics
C. L. Jones/Sociology
G. Jones/Music
G. A. Jones/Theory & Policy Studies in Education
J. B. Jones/Chemistry
O. T. Jones/Pharmacology
J. Jongstra/Immunology
S. Joordens/Psychology
A. Jordan/Curriculum, Teaching & Learning
A. O. Jorgensen/Anatomy & Cell Biology
S. Joshi/Molecular & Medical Genetics
S. Jothy/Laboratory Medicine & Pathobiology
M. L. G. Joy/Electrical & Computer Engineering
M. H. Julius/Immunology
G. V. Jump/Economics
V. Jurdjevic/Mathematics
A. Jwaideh/Near & Middle Eastern Civilizations

B. M. Kaczynski/Medieval Studies
D. Kadar/Pharmacology
K. C. Kain/Laboratory Medicine & Pathobiology
H. Kalant/Pharmacology
P. G. Kalman/Medical Science
I. Kalmar/Anthropology
I. V. Kalnins/Public Health Sciences
V. I. Kalnins/Anatomy & Cell Biology
W. Kalow/Pharmacology
S. Kamel-Reid/Laboratory Medicine & Pathobiology
R. M. P. Kan/Management
C. Kanaganayakam/English
R. A. Kandel/Laboratory Medicine & Pathobiology
S. Kant/Forestry
A. S. Kaplan/Medical Science
R. E. Kapral/Chemistry
M. Kapranov/Mathematics
B. M. Kapur/Laboratory Medicine & Pathobiology
S. Kapur/Medical Science
A. Kapus/Medical Science
B. W. Karney/Civil Engineering
M. Kasturi/History
B. D. Katz/Philosophy
J. Katz/Medical Science
D. Katzman/Medical Science
E. M. Kavaler/History of Art
T. Kavanagh/Exercise Sciences
M. Kawaji/Chemical Engineering & Applied Chemistry
K. Kawashima/East Asian Studies
L. E. Kay/Molecular & Medical Genetics
E. J. Keall/Near & Middle Eastern Civilizations
A. Keating/Medical Science
D. P. Keating/Human Development & Applied Psychology
H.-Y. Kee/Physics
F. W. Keeley/Biochemistry
J. F. Keffer/Mechanical & Industrial Engineering
C. Keil/History
A. M. Keith/Classics
B. G. Kelly/Curriculum, Teaching & Learning
M. J. Kelner/Public Health Sciences
D. Kelvin/Immunology
J. L. Kennedy/Medical Science
J. M. Kennedy/Psychology
S. H. Kennedy/Medical Science

T. C. Kenney/Civil Engineering
D. J. Kenny/Dentistry
R. S. Kerbel/Medical Biophysics
H. Kerpneck/English
D. Kerr/Geography
G. A. Kerr/Exercise Sciences
L. Kerslake/French Language & Literature
J. B. Kervin/Sociology
S. Keshavjee/Medical Science
A. W. Key/Physics
J. M. Khanna/Pharmacology
B. Khesin/Mathematics
R. Khokha/Medical Biophysics
A. Khoury/Biomaterials & Biomedical Engineering
A. Khovanskii/Mathematics
B. Kidd/Exercise Sciences
B. S. Kilbourn/Curriculum, Teaching & Learning
H. Kim/Mathematics
Y. B. Kim/Physics
P. King/Medieval Studies
P. W. T. Kingston/Political Science
M. G. Kingwell/Philosophy
J. R. Kippen/Music
D. W. Kirk/Chemical Engineering & Applied Chemistry
M. C. Kirkham/English
B. H. Kirsh/Occupational Therapy
J. J. Kirton/Political Science
S. J. Kish/Pharmacology
J. Kivimäe/History
H. J. Klamut/Medical Biophysics
N. S. Klar/Public Health Sciences
D. N. Klausner/Medieval Studies
P. Kleber/Comparative Literature
L. Klein/Music
M. A. Klein/History
M. R. Kleindienst/Anthropology
A. Klip/Biochemistry
J. S. Kloppenborg/Religion
R. H. Kluger/Chemistry
K. Knight/Statistics
K. Knop/Law
J. G. Knowles/Adult Education, Community Development & Counselling Psychology
R. Knowles/Drama
L. Kofman/Theoretical Astrophysics
L. M. Kohn/Botany
H. F. Kolodny/Management
A. Konrad/Electrical & Computer Engineering
A. A. Kontos/Political Science
M. Koortbojian/History of Art
M. Kooy/Curriculum, Teaching & Learning
J. S. Kopstein/Political Science
G. Koren/Medical Science
J. Kornberg/History
N. ten Kortenaar/English
M. T. Kortschot/Chemical Engineering & Applied Chemistry
C. Kosnik/Curriculum, Teaching & Learning
P. Kotanen/Botany
B. Kovrig/International Studies
T. Koznarsky/Slavic Languages & Literatures
M. D. Krahn/Health Policy, Management and Evaluation
C. E. Kramer/Slavic Languages & Literatures
L. Krames/Psychology
M. Krashinsky/Industrial Relations
D. Krass/Management
H. Krause/Molecular & Medical Genetics
N. Kreiger/Public Health Sciences
E. J. Kremer/Philosophy
J. J. Krepinsky/Molecular & Medical Genetics
A. J. Kresge/Chemistry
N. Krieger/Nutritional Sciences
P. W. Krieger/Physics
R. O. Kroger/Psychology
T. E. Krogh/Geology
M. Krondl/Nutritional Sciences
H. J. Kronzucker/Botany
U. J. Krull/Chemistry
F. R. Kschischang/Electrical & Computer Engineering
D. C. S. Kuhn/Chemical Engineering & Applied Chemistry
A. Kukla/Psychology
A. Kuksis/Biochemistry
G. Kulesha/Music
E. Kumacheva/Chemistry
D. Kundur/Electrical & Computer Engineering
H. Kunov/Electrical & Computer Engineering
I. Kupka/Mathematics
E. Kushner/Comparative Literature
K. Kutulakos/Computer Science
H. C. Kwan/Physiology
R. H. Kwong/Electrical & Computer Engineering

S. Laaksonen-Craig/Forestry
N. Labrie/Curriculum, Teaching & Learning
T. Lahusen/History
M. E. Laiken/Adult Education, Community Development & Counselling Psychology
T. C. M. Lam/Curriculum, Teaching & Learning
M. J. Lambek/Anthropology
A. C. Lancashire/English
D. I. Lancashire/English
R. B. Land/Information Studies
R. G. Landon/English
B. G. Lane/Biochemistry
D. W. Lang/Theory & Policy Studies in Education
N. C. Lang/Social Work
A. B. Lange/Zoology
L. M. Lange/Philosophy
B. A. Langille/Law

B. L. Langille/Laboratory Medicine & Pathobiology
J. Langins/History & Philosophy of Science & Technology
K. A. Lantz/Slavic Languages & Literatures
S. Lapkin/Curriculum, Teaching & Learning
E. W. Larsen/Zoology
G. P. Latham/Management
A. Latta/Germanic Languages & Literatures
M. A. Latta/Anthropology
E. C. Laufer/Music
A. Laupacis/Health Policy, Management and Evaluation
M. Lautens/Chemistry
J. D. Lavers/Electrical & Computer Engineering
C. LaVigna/History
H. G. Lawford/Biochemistry
S. B. Lawton/Theory & Policy Studies in Education
A. Lazarus/Laboratory Medicine & Pathobiology
R. J. Le Huenen/French Language & Literature
J. L. Leake/Dentistry
P. Leatt/Public Health Sciences
J. D. LeBlanc/French Language & Literature
R. W. Leckie/Germanic Languages & Literatures
L. LeDuc/Political Science
D. H. Lee/Architecture, Landscape, and Design
E. S. Lee/Electrical & Computer Engineering
M. J. G. Lee/Physics
R. B. Lee/Anthropology
A. M. Leggatt/English
E. M. M. Legge/History of Art
A. B. Lehman/Mathematics
P. W. Lehn/Electrical & Computer Engineering
E. Lehouck/French Language & Literature
L. A. Leiter/Nutritional Sciences
L. M. Leith/Exercise Sciences
K. A. Leithwood/Theory & Policy Studies in Education
L. Lemieux-Charles/Health Policy, Management and Evaluation
J. T. Lemon/Geography
H. Lenskyj/Sociology & Equity Studies in Education
P. R. Léon/French Language & Literature
P. R. Léon/Spanish
A. Leon-Garcia/Electrical & Computer Engineering
E. M. Leonard/Religion
G. M. Leonard/English
K. J. Leonard/Health Policy, Management and Evaluation
J. Lepock/Medical Biophysics
R. J. Leprohon/Near & Middle Eastern Civilizations
J. B. Lester/Astronomy and Astrophysics
M. Letarte/Immunology
M. Lettieri/Italian Studies
H. J. Leutheusser/Mechanical & Industrial Engineering
M. J. Levene/English
J. L. Levenson/English
T. H. Levere/History & Philosophy of Science & Technology
H. J. Levesque/Computer Science
M. D. Levin/Anthropology
B. Levine/Psychology
D. Levine/Theory & Policy Studies in Education
E. Levy/History of Art
G. A. Levy/Medical Science
D. M. Lewis/Electrical & Computer Engineering
D. W. Lewis/Dentistry
G. F. Lewis/Medical Science
M. D. Lewis/Human Development & Applied Psychology
P. N. Lewis/Biochemistry
R. D. Lewis/Geography
S. Lewis/Molecular & Medical Genetics
J. F. Leyerle/English
D. Li/Mechanical & Industrial Engineering
P. P. Li/Pharmacology
R.-K. Li/Medical Science
Y. Li/Management
D. A. Lidar/Chemistry
B. Liebgott/Anatomy & Cell Biology
C.-C. Liew/Laboratory Medicine & Pathobiology
E. S. Lightman/Social Work
L. Lilge/Medical Biophysics
A. V. Liman/East Asian Studies
H. Limeback/Dentistry
X. S. Lin/Statistics
N. R. Lindheim/English
R. Lindheim/Slavic Languages & Literatures
P. H. Lindsay/Human Development & Applied Psychology
C. A. Lingwood/Laboratory Medicine & Pathobiology
P. Links/Medical Science
H. D. Lipshitz/Molecular & Medical Genetics
S. N. Liss/Civil Engineering
A. E. Litherland/Physics
F.-F. Liu/Medical Biophysics
H. T. Liu/Aerospace Science & Engineering
J. Liu/Molecular & Medical Genetics
M. Liu/Medical Science
P. P. Liu/Medical Science
L. Livak/Slavic Languages & Literatures
R. A. Liversage/Zoology
D. W. Livingstone/Sociology & Equity Studies in Education
H. A. Llewellyn-Thomas/Nursing Science
T. O. Lloyd/History
C. Lobe/Medical Biophysics
M. Locke/Exercise Sciences
D. Locker/Dentistry
R. S. Lockhart/Psychology
P. Lockwood/Psychology
L. Loeb/History
A. G. Logan/Health Policy, Management and Evaluation
R. K. Logan/Physics
J. R. Long/Electrical & Computer Engineering

M. Lord/French Language & Literature
J. W. Lorimer/Mathematics
W. Lou/Public Health Sciences
R. L. Love/Public Health Sciences
D. A. Lovejoy/Zoology
M. W. Lovett/Psychology
D. E. Low/Laboratory Medicine & Pathobiology
A. M. Lozano/Medical Science
F.-F. Lu/Medical Science
Z.-H. Lu/Materials Science & Engineering
H-K. Lücke/History of Art
G. L. Lukacs/Medical Science
M. E. Luke/Physics
C. J. Lumsden/Medical Science
H. V. Luong/Anthropology
G. J. Luste/Physics
R. Luus/Chemical Engineering & Applied Chemistry
S. J. Lye/Physiology
R. J. Lynn/East Asian Studies
M. Lyubich/Mathematics

S. A. Mabury/Chemistry
M. A. MacAdam/Social Work
C. Macarthur/Health Policy, Management and Evaluation
H. R. MacCallum/English
J. F. MacDonald/Physiology
K. MacDonald/Medical Science
L. MacDonald/Music
P. M. Macdonald/Chemistry
L. S. MacDowell/History
R. J. MacFadden/Social Work
R. B. Macgregor, Jr./Pharmaceutical Sciences
J. G. MacIntosh/Law
D. Mackay/Environmental Studies
R. Mackay/Sociology
W. A. MacKay/Physiology
L. D. MacKeigan/Pharmaceutical Sciences
M. P. Macklem/Law
A. Macklin/Law
V. W. Maclaren/Geography
H. Maclean/Nursing Science
D. H. MacLennan/Biochemistry
C. M. MacLeod/Psychology
S. M. MacLeod/Pharmacology
A. M. MacMillan/Chemistry
M. MacMillan/History
M. E. MacNeill/Exercise Sciences
J. J. Macpherson/English
J. C. Magee/Classics
W. J. Magee/Sociology
D. W. Magill/Sociology
J. Magnusson/Theory & Policy Studies in Education
P. R. Magocsi/Political Science
D. J. Mahuran/Laboratory Medicine & Pathobiology
B. Majumdar/Nursing Science
T. W. Mak/Medical Biophysics
B. E. Maki/Medical Science
V. Makis/Mechanical & Industrial Engineering
J. R. Malcolm/Forestry
D. Malkin/Medical Science
D. W. Malloch/Botany
A. Mandelis/Mechanical & Industrial Engineering
M. R. Maniates/Music
R. T. Manktelow/Medical Science
R. Mann/Public Health Sciences
S. Mann/Electrical & Computer Engineering
I. Manners/Chemistry
M. F. Manolson/Dentistry
A. Manoukian/Medical Biophysics
R. A. Manzer/Political Science
R. S. Marjoribanks/Physics
F. J. Marker/English
A. Marks/Biochemistry
M. E. Marmura/Near & Middle Eastern Civilizations
M. Marrese/History
L. D. Marrett/Public Health Sciences
M. R. Marrus/History
P. A. Marsden/Medical Science
J. C. Marshall/Medical Science
K. W. Marshall/Medical Science
R. H. Marshall/Slavic Languages & Literatures
V. W. Marshall/Public Health Sciences
J. A. Marshman/Pharmaceutical Sciences
D. L. Martell/Forestry
J. F. Martin/Physics
K. W. Martin/Electrical & Computer Engineering
P. Martin/French Language & Literature
P. G. Martin/Theoretical Astrophysics
R. L. Martin/Management
T. Martone/History of Art
E. Marziali/Social Work
A. C. Mason/Zoology
H. J. Mason/Classics
S. Mason/Religion
D. Massam/Linguistics
D. Masson/Mathematics
Y. Masui/Zoology
G. F. Mathewson/Economics
R. A. Mathon/Computer Science
R. O. Matthews/Political Science
S. Matthews/Physiology
J. L. Matus/English
C. Matzner/Astronomy and Astrophysics
N. Maury/French Language & Literature
J. Mavalwala/Anthropology
A. D. May/Physics
H. Mayberg/Medical Science
H. Mayer/Germanic Languages & Literatures
J. T. Mayhall/Dentistry

J. Mayo/Music
P. M. H. Mazumdar/History & Philosophy of Science & Technology
T. Mazzulli/Laboratory Medicine & Pathobiology
J. H. McAndrews/Botany
M. P. McAndrews/Psychology
B. Y. McCabe/Civil Engineering
S. McCahan/Mechanical & Industrial Engineering
D. McCammond/Mechanical & Industrial Engineering
R. McCann/Mathematics
P. L. McCarney/Political Science
J. A. McClelland/French Language & Literature
R. A. McClelland/Chemistry
J. K. McConica/Medieval Studies
J. McCool/Mathematics
P. McCourt/Botany
C. A. G. McCulloch/Dentistry
E. A. McCulloch/Medical Biophysics
T. H. McCurdy/Management
P. L. McDonald/Social Work
R. J. McDonald/Psychology
C. J. McDonough/Classics
P. A. McDonough/Public Health Sciences
P. McDunnough/Statistics
B. S. McElhinny/Anthropology
T. F. S. McFeat/Anthropology
M. McGavin/Laboratory Medicine & Pathobiology
T. McGee/Music
A. McGeer/Medical Science
S. McGill/Medical Science
C. J. McGlade-Dolson/MedicalBiophysics
C. McGowan/Zoology
M. McGowan/History
W. E. McIlroy/Rehabilitation Science
T. F. McIlwraith/Geography
R. R. McInnes/Molecular & Medical Genetics
C. T. McIntire/Religion
A. R. McIntosh/Psychology
N. H. McKee/Medical Science
P. D. McKeever/Nursing Science
C. McKerlie/Laboratory Medicine & Pathobiology
M. McKneally/Medical Science
J. R. McLaughlin/Public Health Sciences
P. R. McLaughlin/Medical Science
J. McLaurin/Laboratory Medicine & Pathobiology
A. McLean/Materials Science & Engineering
L. D. McLean/Curriculum, Teaching & Learning
R. S. McLean/Curriculum, Teaching & Learning
S. McLean/Chemistry
T. M. McLellan/Exercise Sciences
D. A. McLennan/Zoology
J. T. McLeod/Political Science
R. R. McLeod/English
R. S. McLeod/Health Policy, Management and Evaluation
N. McMullin/Religion
D. A. McQuillan/Geography
T. Meacham/Near & Middle Eastern Civilizations
C. T. Meadow/Information Studies
J. C. Meagher/English
J. A. Medin/Medical Biophysics
D. E. Meeks/Social Work
S. A. Meguid/Mechanical & Industrial Engineering
E. Meinrenken/Mathematics
F. J. Melbye/Anthropology
A. Melino/Economics
E. Mendelsohn/Mathematics
J. R. Mendelson/Speech-Language Pathology
A. Mendelzon/Computer Science
U. Menzefricke/Management
M. Menzinger/Chemistry
B. S. Merrilees/French Language & Literature
D. Mertins/Architecture, Landscape, and Design
H. A. Messner/Medical Science
M. D. Meyerson/History
M. S. Meyn/Molecular & Medical Genetics
A. D. Miall/Geology
W. Michelson/Sociology
D. A. G. Mickle/Laboratory Medicine & Pathobiology
L. L. Mickleborough/Medical Science
R. Midha/Medical Science
S. Miezitis/Adult Education, Community Development & Counselling Psychology
D. Mikulis/Medical Science
A. R. Miles/Adult Education, Community Development & Counselling Psychology
N. W. Milgram/Psychology
P. Milgram/Mechanical & Industrial Engineering
B. Milkereit/Physics
A. B. Miller/Public Health Sciences
E. J. Miller/Civil Engineering
J. Miller/Medical Science
J. P. Miller/Curriculum, Teaching & Learning
M. C. Miller/History of Art
O. J. Miller/French Language & Literature
R. G. Miller/Medical Biophysics
R. J. Miller/Computer Science
R. J. D. Miller/Chemistry
N. B. Millet/Near & Middle Eastern Civilizations
J. Millgate/English
M. Millgate/English
J. K. Mills/Mechanical & Industrial Engineering
L. R. Mills/Physiology
R. H. Mills/Civil Engineering
P. E. Millson/Public Health Sciences
P. Milman/Mathematics
M. Milner/Mechanical & Industrial Engineering
C. A. Mims/Chemical Engineering & Applied Chemistry
M. D. Minden/Medical Biophysics
S. Minkin/Medical Biophysics

J. O. Minta/Laboratory Medicine & Pathobiology
J. M. Mintz/Management
K. Mirchandani/Adult Education, Community Development & Counselling Psychology
J. R. Miron/Geography
C. J. Misak/Philosophy
D. Misgeld/Theory & Policy Studies in Education
R. C. Mishra/Social Work
A. A. Mitchell/Management
J. Mitchell/Pharmacology
J. X. Mitrovica/Physics
S. W. Mochnacki/Astronomy and Astrophysics
D. Mock/Dentistry
G. W. Moe/Medical Science
J. W. Moffat/Physics
D. E. Moggridge/Economics
J. Mogridge/Laboratory Medicine & Pathobiology
B. Mohanty/Civil Engineering
S. Mojab/Adult Education, Community Development & Counselling Psychology
H. Moldofsky/Medical Science
M. Molloy/Computer Science
A. Molto/Anthropology
J.-M. Moncalvo/Botany
G. W. K. Moore/Physics
M. J. Moore/Pharmacology
S. Moorthy/Management
G. Moraglia/Psychology
L. A. Moran/Biochemistry
M. Moran/Law
M. F. Moran/Molecular & Medical Genetics
C. R. Morey/Music
C. Morgan/Theory & Policy Studies in Education
E. M. Morgan/Law
K. P. Morgan/Philosophy
P. F. Morgan/English
R. J. Morgan/Curriculum, Teaching & Learning
J. Mori/History
G. K. Morris/Zoology
R. H. Morris/Chemistry
S. W. Morris/Physics
J. C. Morrison/Philosophy
M. C. Morrison/Philosophy
D. Morton/History
M. A. Moscarello/Biochemistry
M. Moscovitch/Psychology
J. E. Mosher/Social Work
M. M. Moskovits/Chemistry
J. Mostaghimi/Mechanical & Industrial Engineering
N. Mrosovsky/Zoology
A. Mullin/Philosophy
J. E. Mungall/Geology
L. Munk/English
R. E. Munn/Environmental Studies
D. S. Munro/Geography
I. Munro/Nutritional Sciences
J. H. A. Munro/Economics
H. Munroe-Blum/Social Work
K. Murasugi/Mathematics
B. B. Murdock/Psychology
H. Murialdo/Molecular & Medical Genetics
F. Murnaghan/Mathematics
M. Murphy/History
R. W. Murphy/Zoology
A. C. Murray/History
H. Murray/English
J. Murray/Medieval Studies
N. W. Murray/Theoretical Astrophysics
R. K. Murray/Biochemistry
T. M. Murray/Medical Science
V. Murty/Mathematics
D. F. Musella/Theory & Policy Studies in Education
N. B. Musisi/History
C. M. Musselman/Human Development & Applied Psychology
C. A. Mustard/Public Health Sciences
P. M. Muter/Psychology
L. J. Muzzin/Theory & Policy Studies in Education
T. Myers/Public Health Sciences
J. Myles/Sociology
J. Mylopoulos/Computer Science

A. Nabutovsky/Mathematics
A. Nachman/Mathematics
S. Nag/Laboratory Medicine & Pathobiology
S. Nagata/Anthropology
A. Nagel/History of Art
A. Nagy/Molecular & Medical Genetics
P. Nagy/Curriculum, Teaching & Learning
J. G. Nairn/Pharmaceutical Sciences
F. Najm/Electrical & Computer Engineering
K. Nakajima/East Asian Studies
A. J. Naldrett/Geology
C. Nalewajko/Botany
C. A. Naranjo/Pharmacology
S. Narod/Public Health Sciences
S. Naumann/Biomaterials & Biomedical Engineering
C. D. Naylor/Public Health Sciences
J. Ndayiragije/French Language & Literature
R. M. Neal/Statistics
J. Nedelsky/Political Science
E. Neglia/Spanish
W. H. Nelson/History
P. W. Nesselroth/French Language & Literature
C. B. Netterfield/Astronomy and Astrophysics
A. W. Neumann/Mechanical & Industrial Engineering
N. Nevitte/Political Science
M. Newton/History
S. Neysmith/Social Work

R. Ng/Adult Education, Community Development & Counselling Psychology
W. T. Ng/Electrical & Computer Engineering
G. Nicholson/Religion
E. Nikiema/French Language & Literature
S. Nishisato/Curriculum, Teaching & Learning
W. H. Noble/Medical Science
J. N. Nobrega/Pharmacology
J. Noel/History
G. Norris/Geology
J. W. Norris/Medical Science
T. H. North/Materials Science & Engineering
L. S. Northrup/Near & Middle Eastern Civilizations
K. H. Norwich/Physiology
D. Novak/Religion
D. M. Nowlan/Environmental Studies
A. M. Noyek/Public Health Sciences
J. Noyes/Germanic Languages & Literatures
M. E. Nyquist/English

P. J. O'Brien/Pharmaceutical Sciences
L.-L. O'Brien-Pallas/Nursing Science
H. M. O'Brodovich/Medical Science
J. T. O'Connell/Religion
D. O'Connor/Nutritional Sciences
K. O'Craven/Psychology
D. H. O'Day/Zoology
P. J. O'Donnell/Physics
B. F. O'Dowd/Pharmacology
B. M. O'Keefe/Speech-Language Pathology
M. O'Neill-Karch/French Language & Literature
E. V. O'Sullivan/Adult Education, Community Development & Counselling Psychology
R. O'Toole/Sociology
K. Oatley/Human Development & Applied Psychology
P. S. Ohashi/Medical Biophysics
M. Ohh/Laboratory Medicine & Pathobiology
A. Ohlsson/Health Policy, Management and Evaluation
M. Ojha/Biomaterials & Biomedical Engineering
A. B. Okey/Pharmacology
W. A. Oliver/French Language & Literature
N. F. Olivieri/Medical Science
M. Olmstead/Medical Science
C. P. Olson/Sociology & Equity Studies in Education
D. R. Olson/Human Development & Applied Psychology
S. D. Olyan/Social Work
D. A. Ondrack/Management
M. J. Opas/Anatomy & Cell Biology
A. P. M. Orchard/Medieval Studies
I. Orchard/Zoology
R. S. Orr/Physics
B. A. Orser/Physiology
C. Orwin/Political Science
D. Orwin/Slavic Languages & Literatures
L. Osborne/Molecular & Medical Genetics
M. Osborne/Economics
D. H. Osmond/Physiology
V. Ostapchuk/Near & Middle Eastern Civilizations
C. A. Ottaway/Medical Science
F. P. Ottensmeyer/MedicalBiophysics
W. G. Oxtoby/Religion
H. Özcelik/Laboratory Medicine & Pathobiology
G. A. Ozin/Chemistry

C. Pace-Asciak/Pharmacology
J. A. Packer/Civil Engineering
M. A. Packham/Biochemistry
S. Padro/Theory & Policy Studies in Education
E. F. Pai/Biochemistry
C. J. Paige/Medical Biophysics
R. H. Painter/Biochemistry
C. Y. Pang/Medical Science
K.-C. S. Pang/Pharmaceutical Sciences
T. L. Pangle/Political Science
V. G. Papangelakis/Chemical Engineering & Applied Chemistry
J. C. Paradi/Chemical Engineering & Applied Chemistry
M. Paraschivoiu/Mechanical & Industrial Engineering
C. B. Park/Mechanical & Industrial Engineering
J. D. Parker/Medical Science
M. A. Parker/Music
R. B. Parker/English
T. G. Parker/Medical Science
P. Parkin/Medical Science
C. Pascal/Theory & Policy Studies in Education
S. Pasupathy/Electrical & Computer Engineering
J. M. Paterson/French Language & Literature
J. W. O. Patrick/English
Z. A. Patrick/Botany
L. W. Pauly/Political Science
P. H. Pauly/Management
N. Pavliuc/Slavic Languages & Literatures
A. J. Pawson/Molecular & Medical Genetics
A. A. Payne/History of Art
J. Pearl/History
C. Pearson/Molecular & Medical Genetics
J. B. Peckham/Near & Middle Eastern Civilizations
P. R. Pedersen/Music
E. Pedretti/Curriculum, Teaching & Learning
H. Peemoeller/Medical Science
A. W. Peet/Physics
Y. Pei/Medical Science
W. R. Peltier/Physics
U.-L. Pen/Theoretical Astrophysics
P. B. Pencharz/Nutritional Sciences
D. M. Pendergast/Anthropology
L. D. Pengelly/Public Health Sciences
L. J. Z. Penn/Medical Biophysics
P. S. Pennefather/Pharmaceutical Sciences
J. L. Penner/Molecular & Medical Genetics

J. M. Penninger/Medical Biophysics
D. Penny/Electrical & Computer Engineering
D. Penslar/History
A. Percival/Spanish
C. E. Percy/English
J. R. Percy/Astronomy and Astrophysics
M. E. Percy/Physiology
A. T. Pérez-Leroux/Spanish
D. D. Perovic/Materials Science & Engineering
P. J. G. O. Perron/French Language & Literature
A. Perry/Human Development & Applied Psychology
M. D. Perry/Molecular & Medical Genetics
J. M. Perz/Physics
J. E. Pesando/Economics
M. H. Peters/Economics
J. Peterson/Psychology
M. Peterson-Badali/Human Development & Applied Psychology
T. L. Petit/Psychology
M. Petric/Laboratory Medicine & Pathobiology
A. Petronis/Medical Science
P. R. Petryshen/Nursing Science
S. K. Pfeiffer/Anthropology
J. R. Phillips/Law
M. J. Phillips/Laboratory Medicine & Pathobiology
M. J. Phillips/Chemical Engineering & Applied Chemistry
R. A. Phillips/MedicalBiophysics
E. A. Phillipson/Medical Science
S. B. Philpott/Anthropology
T. W. Picton/Psychology
R. R. Pierson/Sociology & Equity Studies in Education
A. Pietersma/Near & Middle Eastern Civilizations
D. Pietropaolo/Italian Studies
M. R. Piggott/Chemical Engineering & Applied Chemistry
R. M. Pilliar/Dentistry
G. H. Pink/Public Health Sciences
M. Piquette-Miller/Pharmaceutical Sciences
N. Piran/Adult Education, Community Development & Counselling Psychology
T. Pitassi/Computer Science
C. Pitchik/Economics
R. Plant/Drama
K. Plataniotis/Electrical & Computer Engineering
D. B. Plewes/Medical Biophysics
P. Pliner/Psychology
M. J. Plyley/Exercise Sciences
A. J. Poë/Chemistry
D. Pokorny/Political Science
B. D. Poland/Public Health Sciences
J. C. Polanyi/Chemistry
H. Polatajko/Occupational Therapy
J. Polivy/Psychology
B. H. Pomeranz/Zoology
R. Pomès/Biochemistry
C. V. Ponomareff/Slavic Languages & Literatures
M. R. Popovic/Biomaterials & Biomedical Engineering
E. Poppitz/Physics
J. Portelli/Theory & Policy Studies in Education
M. J. M. Posner/Mechanical & Industrial Engineering
M. Post/Physiology
C. X. Poulos/Psychology
P. Poussier/Immunology
J. Powell/Chemistry
J. Pratt/Psychology
R. C. Pratt/Political Science
A. Prentice/Theory & Policy Studies in Education
K. D. Pressnail/Civil Engineering
A. G. Price/Geography
L. C. D. C. Priestley/East Asian Studies
D. M. Pringle/Nursing Science
K. P. H. Pritzker/Laboratory Medicine & Pathobiology
G. G. Privé/MedicalBiophysics
R. S. Prosser/Chemistry
N. Provart/Botany
R. W. Pruessen/History
E. Prugovecki/Mathematics
W. Pruzanski/Medical Science
M. Pugh/Mathematics
O. Pugliese/Italian Studies
D. E. Pulleyblank/Biochemistry
J. T. Purdham/Public Health Sciences
J. Putnam/Law
R. N. Pysklywec/Geology

S. Quaggin/Medical Science
J. J. Quarter/Adult Education, Community Development & Counselling Psychology
J. Quastel/Mathematics

M. Rabinovitch/Laboratory Medicine & Pathobiology
D. Raby/History
C. Rackoff/Computer Science
I. C. Radde/Pharmacology
I. Radforth/History
M. W. M. Radomski/Exercise Sciences
J. A. Raftis/Medieval Studies
S. Rajalakshmi/Laboratory Medicine & Pathobiology
M. R. Ralph/Psychology
B. Ramaswami/Materials Science & Engineering
M. L. Rand/Laboratory Medicine & Pathobiology
K. B. Ranger/Mathematics
A. V. Rao/Nutritional Sciences
D. Rao/Music
A. Rapoport/Psychology
J. Rapoport/Medical Science
S. G. Rappolt/Occupational Therapy
M. Ratcliffe/Immunology
A. M. Rauth/Medical Biophysics
J. A. Rawlinson/Medical Biophysics

A. K. Ray/Anthropology
P. Ray/Molecular & Medical Genetics
D. M. Rayside/Political Science
S. Razack/Sociology & Equity Studies in Education
S. E. Read/Medical Science
J. Reading/Public Health Sciences
D. G. Réaume/Law
M. F. Redekop/English
D. A. Redelmeier/Health Policy, Management and Evaluation
J. K. Reed/Chemistry
D. W. Reeve/Chemical Engineering & Applied Chemistry
C. Regehr/Social Work
G. Regehr/Theory & Policy Studies in Education
H. A. Regier/Environmental Studies
J. Rehm/Public Health Sciences
J. H. Reibetanz/English
P. A. Reich/Linguistics
D. Reid/History of Art
D. T. Reid/Rehabilitation Science
F. J. Reid/Economics
L. D. Reid/Aerospace Science & Engineering
N. M. Reid/Statistics
J. A. Reilly/Near & Middle Eastern Civilizations
R. M. Reilly/Pharmaceutical Sciences
E. M. Reingold/Psychology
M. D. O. Reis/Laboratory Medicine & Pathobiology
R. R. Reisz/Zoology
R. Reiter/Computer Science
R. Reithmeier/Biochemistry
J. G. Reitz/Sociology
E. C. Relph/Geography
G. Remington/Medical Science
R. M. Renwick/Rehabilitation Science
J. Repka/Mathematics
J. Retallack/History
A. R. Reuber/Management
E. J. Revell/Near & Middle Eastern Civilizations
C. Reynolds/Theory & Policy Studies in Education
R. E. Reynolds/Medieval Studies
W. F. Reynolds/Chemistry
K. D. Rice/Linguistics
L. W. Richards/Architecture, Landscape, and Design
R. R. Richards/Medical Science
C. D. Richardson/MedicalBiophysics
D. S. Richardson/History of Art
G. P. Richardson/Religion
D. S. Riddick/Pharmacology
A. G. Rigg/Medieval Studies
C. D. Riggs/Botany
F. P. J. Rimrott/Mechanical & Industrial Engineering
M. J. Ringuette/Zoology
J. M. Rini/Molecular & Medical Genetics
A. Ripstein/Law
J. D. Rising/Zoology
R. C. B. Risk/Law
J. M. Rist/Classics
V. M. Ristic/Electrical & Computer Engineering
J. C. Ritchie/Botany
K. W. Roach/Law
E. I. Robbins/Classics
Y. Roberge/French Language & Literature
A. Robertson/Public Health Sciences
I. R. Robertson/History
P.-Y. F. Robin/Geology
W. Robins/Medieval Studies
B. H. Robinson/Biochemistry
J. B. Robinson/Pharmaceutical Sciences
T. M. Robinson/Philosophy
V. Robinson/Geography
A. Robson/History
E. A. Rochon/Speech-Language Pathology
P. A. Rochon/Health Policy, Management and Evaluation
S. Rockel/History
K. Rockhill/Sociology & Equity Studies in Education
F. H. Rodd/Zoology
J. C. Roder/Immunology
C. D. Rodgers/Exercise Sciences
G. M. Rodin/Medical Science
H. E. Rogers/Linguistics
J. S. Rogers/Mechanical & Industrial Engineering
C. Rogerson/Law
T. E. Rohan/Public Health Sciences
C. Roifman/Immunology
C. Rolheiser/Curriculum, Teaching & Learning
W. L. Rolph/Spanish
R. Roman/Sociology
P. A. Romans/Zoology
J. M. Rommens/Molecular & Medical Genetics
P. G. Rooney/Mathematics
D. S. Rootman/Medical Science
I. Rootman/Public Health Sciences
D. R. Rose/Medical Biophysics
J. S. Rose/Electrical & Computer Engineering
A. Rosenberg/French Language & Literature
N. D. Rosenblum/Medical Science
C. J. Rosenthal/Rehabilitation Science
J. S. Rosenthal/Statistics
P. Rosenthal/Mathematics
J. A. Ross/Curriculum, Teaching & Learning
R. B. Ross/Dentistry
J. Rossant/Molecular & Medical Genetics
W. W. Rosser/Public Health Sciences
A. Rossos/History
W. Rotenberg/Management
A. I. Rothman/Theory & Policy Studies in Education
D. Rotin/Biochemistry
A. Rotstein/Political Science

O. D. Rotstein/Medical Science
R. Rottapel/Immunology
J. Rouleau/Medical Science
J. Rovet/Human Development & Applied Psychology
D. J. Rowe/Physics
L. Rowe/Zoology
S. T. Roweis/Geography
J. A. Rowlands/Medical Biophysics
D. N. Roy/Forestry
E. A. Roy/Rehabilitation Science
M. Rozemond/Philosophy
B. Rubin/Medical Science
L. A. Rubin/Medical Science
C. I. R. Rubincam/Classics
A. G. Rubinoff/Political Science
S. M. Rucinski/Astronomy and Astrophysics
J. C. Rucklidge/Geology
H. E. Ruda/Materials Science & Engineering
D. T. Ruddel/Museum Studies Program
S. Ruddick/Geography
K. Ruitenbeek/East Asian Studies
E. Rummel/Medieval Studies
S. J. Rupp/Spanish
B. R. Rush/Public Health Sciences
H. H. Russell/Curriculum, Teaching & Learning
P. H. Russell/Political Science
P. Rutherford/History
J. T. Rutka/Laboratory Medicine & Pathobiology
J. W. Rutter/Materials Science & Engineering
J. Ryan/Psychology
J. J. Ryan/Theory & Policy Studies in Education

C. Saas/Germanic Languages & Literatures
J. Sadavoy/Medical Science
E. A. Saddlemyer/English
C. D. Sadleir/Mechanical & Industrial Engineering
P. D. Sadowski/Molecular & Medical Genetics
A. E. Safarian/Management
R. F. Sage/Botany
T. L. Sage/Botany
M. Sain/Forestry
J. A. Saint-Cyr/Medical Science
A. Sakaki/East Asian Studies
I. Sakinofsky/Public Health Sciences
J. W. Salaff/Sociology
C. A. T. Salama/Electrical & Computer Engineering
I. E. Salit/Medical Science
M. J. Salloum/Geography
M. W. Salter/Physiology
R. B. Salter/Medical Science
R. L. L. Salter/History & Philosophy of Science & Technology
W. J. Samarin/Anthropology
S. Sandahl/East Asian Studies
K. R. J. Sandbrook/Political Science
G. Sanders/East Asian Studies
R. Sandler/Near & Middle Eastern Civilizations
G. Sanguinetti-Katz/Italian Studies
J. P. Santerre/Dentistry
R. Sarabia/Spanish
E. H. Sargent/Electrical & Computer Engineering
B. Sarkar/Biochemistry
D. S. R. Sarma/Laboratory Medicine & Pathobiology
A. M. Sass-Kortsak/Public Health Sciences
D. N. Sauder/Medical Science
B. Saville/Botany
B. A. Saville/Chemical Engineering & Applied Chemistry
J. Savona/French Language & Literature
R. M. Savory/Near & Middle Eastern Civilizations
L. A. Sawchuk/Anthropology
J. A. Sawyer/Policy Analysis
R. E. Scane/Law
M. A. Scardamalia/Curriculum, Teaching & Learning
G. Scavizzi/History of Art
M. Schabas/History & Philosophy of Science & Technology
R. J. Schachar/Human Development & Applied Psychology
H. Schachter/Biochemistry
J. Schallert/Slavic Languages & Literatures
G. Schellenberg/Psychology
S. Scherer/Molecular & Medical Genetics
J. P. Scherk/Mathematics
B. B. Schiff/Psychology
U. Schimmack/Psychology
B. P. Schimmer/Pharmacology
W. Schlepp/East Asian Studies
B. Schlesinger/Social Work
L. C. Schlichter/Physiology
A. Schmid/East Asian Studies
L. E. Schmidt/Religion
M. A. Schmuckler/Psychology
B. Schneider/Human Development & Applied Psychology
B. A. Schneider/Psychology
M. S. Schneider/Adult Education, Community Development & Counselling Psychology
D. Schneiderman/Law
J. H. Schneiderman/Physiology
J. Schofield/Chemistry
H. G. Schogt/French Language & Literature
G. Scholes/Chemistry
J. W. Scholey/Medical Science
D. Schugurensky/Adult Education, Community Development & Counselling Psychology
A. C. Schuh/Medical Science
D. J. Schulze/Geology
H. P. Schwarcz/Anthropology
D. V. Schwartz/Political Science
W. M. Schwerdtner/Geology
S. D. Scott/Geology

W. E. Seager/Philosophy
E. R. Seaquist/Astronomy and Astrophysics
L. A. Seco/Mathematics
S. A. Sedivy/Philosophy
A. S. Sedra/Electrical & Computer Engineering
M. V. Seeman/Medical Science
P. Seeman/Pharmacology
M. V. Sefton/Chemical Engineering & Applied Chemistry
H. J. Segal/Pharmaceutical Sciences
J. M. Segall/Biochemistry
A. B. Sekuler/Psychology
D. E. Selby/Curriculum, Teaching & Learning
K. A. Selby/Civil Engineering
P. Selick/Mathematics
H. W. Seliger/Germanic Languages & Literatures
E. M. Sellers/Pharmacology
Y. Semenov/Mathematics
A. Semlyen/Electrical & Computer Engineering
J. W. Semple/Pharmacology
A. K. Sen/Pharmacology
D. K. Sen/Mathematics
J. W. Senders/Mechanical & Industrial Engineering
B. J. Sessle/Dentistry
A. Seth/Laboratory Medicine & Pathobiology
A. Sev'er/Sociology
K. C. Sevcik/Computer Science
P. L. Seyfried/Molecular & Medical Genetics
M. Shaffer/Law
U. Shafrir/Human Development & Applied Psychology
C. P. Shah/Public Health Sciences
P. M. M. Shand/Music
H. Shannon/Public Health Sciences
B. Z. Shapiro/Social Work
C. M. Shapiro/Medical Science
J. A. Sharpe/Medical Science
R. W. Sharpe/Mathematics
B. F. Shaw/Medical Science
J. W. Shaw/History of Art
M. C. Shaw/History of Art
W. D. Shaw/English
N. H. Shear/Pharmacology
C. D. Shearing/Political Science
S. A. Sheikh/Civil Engineering
A. Sheikholeslami/Electrical & Computer Engineering
B.-Z. Shek/French Language & Literature
P. N. Shek/Laboratory Medicine & Pathobiology
V. T. S. Shen/Philosophy
R. J. Shephard/Exercise Sciences
T. G. Shepherd/Physics
G. Sheppard/Religion
A. Sheps/History
W. J. Shera/Social Work
M. D. Sherar/Medical Biophysics
F. A. Sherk/Mathematics
I. A. Sherman/Physiology
P. M. Sherman/Laboratory Medicine & Pathobiology
B. Sherwood Lollar/Geology
S. J. Shettleworth/Psychology
J. A. Shin/Chemistry
R. W. Shirley/Anthropology
N. N. Shneidman/Slavic Languages & Literatures
M. S. Shoichet/Chemical Engineering & Applied Chemistry
E. L. Shorter/History
L. H. Shu/Mechanical & Industrial Engineering
M. J. Shulman/Immunology
F. Sicheri/Molecular & Medical Genetics
S. Sidani/Nursing Science
M. J. Sidnell/English
R. Siebelhoff/History of Art
K. Sieciechowicz/Anthropology
I. M. Sigal/Mathematics
B. A. Sigmon/Anthropology
G. Silano/History
M. Silberfeld/Medical Science
P. Silcox/Political Science
E. T. Silva/Sociology
A. I. Silver/History
B. S. Silverman/Management
E. D. Silverman/Immunology
F. S. Silverman/Medical Science
M. Silverman/Medical Science
R. E. B. Simeon/Political Science
K. A. Siminovitch/Immunology
L. Siminovitch/Molecular & Medical Genetics
J. W. Simmons/Geography
R. I. Simon/Curriculum, Teaching & Learning
J. H. Simpson/Sociology
A. N. Sinclair/Mechanical & Industrial Engineering
P. K. Sinervo/Physics
P. A. Singer/Medical Science
E. W. Single/Sociology
R. E. Sinkewicz/Medieval Studies
A. Siow/Economics
J. E. Sipe/Physics
J. P. Sislian/Aerospace Science & Engineering
C.-H. Siu/Biochemistry
V. Skalski/Medical Biophysics
F. Skinner/Physiology
H. A. Skinner/Public Health Sciences
G. Skogstad/Political Science
M. Skolnik/Theory & Policy Studies in Education
J. Skvorecky/Russian & East European Studies
R. Skyrme/Spanish
B. E. Sleep/Civil Engineering
G. R. Slemon/Electrical & Computer Engineering
J. M. Slingerland/Medical Biophysics
A. S. Slutsky/Medical Science
M. Smart/Economics
C. Smibert/Biochemistry

W. Smieliauskas/Management
D. C. Smith/Biomaterials & Biomedical Engineering
D. E. Smith/Sociology & Equity Studies in Education
D. G. Smith/Anthropology
D. W. Smith/French Language & Literature
G. A. Smith/Anthropology
J. J. B. Smith/Zoology
J. W. Smith/Chemical Engineering & Applied Chemistry
K. C. Smith/Electrical & Computer Engineering
M. C. Smith/Psychology
M. L. B. Smith/Psychology
P. W. E. Smith/Electrical & Computer Engineering
S. H. Smith/Mathematics
S. M. Smith/Forestry
D. P. Smyth/History
E. M. Smyth/Curriculum, Teaching & Learning
R. H. Smyth/Linguistics
O. C. Snead/Medical Science
J. H. Sobel/Philosophy
R. M. Soberman/Civil Engineering
J. Sodek/Dentistry
P. L. Sohm/History of Art
M. Sokolowski/Zoology
P. Soldovieri/Germanic Languages & Literatures
M. J. Sole/Medical Science
S. Solecki/English
P. H. Solomon/Political Science
S. G. Solomon/Political Science
L. Somigli/Italian Studies
I. D. Sommerville/Materials Science & Engineering
A. M. Sorenson/Sociology
E. S. Sousa/Electrical & Computer Engineering
N. Spada/Curriculum, Teaching & Learning
J. K. Spelt/Mechanical & Industrial Engineering
A. M. Spence/Molecular & Medical Genetics
I. Spence/Psychology
M. W. Spencer/Sociology
P. Sperdakos/Drama
L. Spero/Pharmacology
M. Spino/Pharmaceutical Sciences
E. T. C. Spooner/Geology
W. G. Sprules/Zoology
P. A. Square/Speech-Language Pathology
J. A. Squire/Laboratory Medicine & Pathobiology
G. Sreenivasan/Philosophy
M. S. Srivastava/Statistics
J. E. Stafford/Public Health Sciences
A. Stanbridge/Museum Studies Program
P. C. Stangeby/Aerospace Science & Engineering
E. F. Stanley/Physiology
K. E. Stanovich/Human Development & Applied Psychology
P. Stanovich/Curriculum, Teaching & Learning
A. Stark/Management
B. W. Statt/Physics
L. Stefaneanu/Laboratory Medicine & Pathobiology
I. L. Stefanovic/Philosophy
J. G. Stein/Political Science
M. Steinbach/Medical Science
A. Steinberg/Physics
G. Steiner/Physiology
M. Steiner/Medical Science
B. Steipe/Biochemistry
P. C. Stenning/Criminology
R. Stephenson/Zoology
L. Stermac/Adult Education, Community Development & Counselling Psychology
S. Stern/Social Work
R. Sternberg/Spanish
G. N. Steuart/Civil Engineering
B. J. Stevens/Nursing Science
J. K. M. Stevens/Physiology
S. Stevenson/Computer Science
B. A. Stewart/Zoology
D. E. Stewart/Medical Science
D. J. Stewart/Medical Science
H. Stewart/Law
J. Stewart/Computer Science
K. Stewart/Medical Science
P. A. Stewart/Anatomy & Cell Biology
I. W. J. Still/Chemistry
J. Stinson/Architecture, Landscape, and Design
B. C. Stock/Comparative Literature
C. Strange/Criminology
W. C. Strange/Management
N. A. Straus/Botany
B. H. Strauss/Laboratory Medicine & Pathobiology
D. L. Streiner/Rehabilitation Science
R. E. Stren/Political Science
K. Strong/Physics
T. A. Stukel/Health Policy, Management and Evaluation
M. Stumm/Electrical & Computer Engineering
D. T. Stuss/Psychology
M. E. Subtelny/Near & Middle Eastern Civilizations
H.-D. Sues/Zoology
C. Sulem/Mathematics
P. A. Sullivan/Aerospace Science & Engineering
P. E. Sullivan/Mechanical & Industrial Engineering
R. Sullivan/English
L. W. Sumner/Philosophy
J.-C. Susini/French Language & Literature
J. Svoboda/Botany
M. K. Swain/Curriculum, Teaching & Learning
R. F. G. Sweet/Near & Middle Eastern Civilizations
R. S. Sweetman/Religion
E. V. Swenson/Computer Science
N. M. Swerdlow/History & Philosophy of Science & Technology
M. A. Szonyi/History

R. Tafarodi/Psychology
S. Tagliamonte/Linguistics
L. Taillefer/Physics
F. D. Tall/Mathematics
B. K. Tang/Pharmacology
J. Tanner/Sociology
I. F. Tannock/Health Policy, Management and Evaluation
R. Tannock/Human Development & Applied Psychology
S. M. Tanny/Mathematics
A. K. Tanswell/Medical Science
V. Tarasuk/Nutritional Sciences
S. Tarlo/Medical Science
M. D. Tarnawsky/Slavic Languages & Literatures
R. R. Tasker/Medical Science
C. H. Tator/Medical Science
I. M. Taylor/Anatomy & Cell Biology
J. G. Taylor/Religion
R. A. Taylor/French Language & Literature
J. L. Teather/Museum Studies Program
J. A. Teichman/Political Science
R. Tellier/Laboratory Medicine & Pathobiology
D. M. Templeton/Laboratory Medicine & Pathobiology
J. G. C. Templeton/Mechanical & Industrial Engineering
H. C. Tenenbaum/Dentistry
R. C. Tennyson/Aerospace Science & Engineering
U. Tepass/Zoology
L. J. Tepperman/Sociology
N. Terpstra/History
D. P. Terzopoulos/Computer Science
J. S. Thaler/Botany
D. R. Thiessen/Curriculum, Teaching & Learning
J. J. Thiessen/Pharmaceutical Sciences
A. M. Thomas/Adult Education, Community Development & Counselling Psychology
S. Thomas/Forestry
S. G. Thomas/Rehabilitation Science
A. C. Thompson/Theoretical Astrophysics
J. C. Thompson/Chemistry
L. U. Thompson/Nutritional Sciences
M. Thompson/Chemistry
M. Thompson/Molecular & Medical Genetics
P. A. Thompson/Medieval Studies
R. P. Thompson/Philosophy
J. D. Thomson/Zoology
L. Thomson/English
M. J. Thomson/Mechanical & Industrial Engineering
R. D. B. Thomson/Slavic Languages & Literatures
P. S. Thorner/Laboratory Medicine & Pathobiology
M. T. Thornton/Philosophy
S. J. Thorpe/Materials Science & Engineering
R. G. Tiberius/Theory & Policy Studies in Education
T. T. Tidwell/Chemistry
J. E. Till/MedicalBiophysics
V. R. Timmer/Forestry
J. Timusk/Civil Engineering
T. To/Public Health Sciences
S. S. Tobe/Zoology
B. J. Todd/History
S. Todorcevic/Mathematics
J. M. Toguri/Materials Science & Engineering
C. D. E. Tolton/French Language & Literature
R. D. Tomlinson/Medical Science
B. B. Toner/Medical Science
S. Toueg/Computer Science
D. R. Townsend/Medieval Studies
R. G. Townsend/Theory & Policy Studies in Education
J. Trachtenberg/Medical Science
J. S. Traill/Classics
H. Tran/Chemical Engineering & Applied Chemistry
O. Trass/Chemical Engineering & Applied Chemistry
R. E. Traub/Curriculum, Teaching & Learning
M. J. Trebilcock/Law
S. Tredwell/Medical Science
D. Trefler/Economics
S. E. Trehub/Psychology
W. S. Trimble/Biochemistry
W. Trischuk/Physics
D. Tritchler/Medical Biophysics
N. Trocme/Social Work
T. Trojanowska/Slavic Languages & Literatures
G. E. Trope/Medical Science
H. M. Troper/Theory & Policy Studies in Education
D. A. Trott/French Language & Literature
D. A. Trotz/Sociology & Equity Studies in Education
A. K. T. Tsang/Social Work
M.-S. Tsao/Laboratory Medicine & Pathobiology
J. K. Tsotsos/Computer Science
F. W. L. Tsui/Immunology
L.-C. Tsui/Molecular & Medical Genetics
R. Tsukimura/East Asian Studies
J. V. Tu/Health Policy, Management and Evaluation
J. Tully/Philosophy
R. E. Tully/Philosophy
E. Tulving/Psychology
C. J. Tuohy/Political Science
I. B. Turksen/Mechanical & Industrial Engineering
D. H. Turner/Anthropology
F. J. Turner/Social Work
M. A. Turner/Economics
D. Tweed/Physiology
M. D. Tyers/Molecular & Medical Genetics
M. Tymianski/Medical Science
R. F. Tyndale/Pharmacology

J. P. Uetrecht/Pharmaceutical Sciences
S. B. Ungar/Sociology
M. Urowitz/Medical Science
A. I. F. Urquhart/Philosophy

T. A. Utigard/Materials Science & Engineering
S. Uyenaka/East Asian Studies
S. M. Uzumeri/Civil Engineering

L. E. Vaage/Religion
F. J. Vaccarino/Psychology
M. L. S. Vachon/Public Health Sciences
B. Vähämäki/Slavic Languages & Literatures
S. Valaee/Electrical & Computer Engineering
C. Valcke/Law
M. J. Valdés/Comparative Literature
J. P. Valleau/Chemistry
M. Valverde/Criminology
M. van de Panne/Computer Science
J. Van de Vegte/Mechanical & Industrial Engineering
D. van der Kooy/Anatomy & Cell Biology
T. E. van Deventer/Electrical & Computer Engineering
H. M. van Driel/Physics
B. L. van Ginkel/Architecture, Landscape, and Design
S. Van Kirk/History
P. van Lieshout/Speech-Language Pathology
H. H. M. Van Tol/Pharmacology
W. H. Vanderburg/Mechanical & Industrial Engineering
G. C. Vanlerberghe/Botany
S. L. Varmuza/Zoology
E. Vayda/Health Policy, Management and Evaluation
F. J. Vecchio/Civil Engineering
A. Veneris/Electrical & Computer Engineering
A. N. Venetsanopoulos/Electrical & Computer Engineering
R. D. Venter/Mechanical & Industrial Engineering
A. Verma/Management
M. C. Verrier/Rehabilitation Science
J. M. Vertin/Philosophy
J. W. P. Veugelers/Sociology
E. P. Vicari/English
K. J. Vicente/Mechanical & Industrial Engineering
R. Vieth/Laboratory Medicine & Pathobiology
D. W. J. Vincent/Germanic Languages & Literatures
K. J. Vincente/Electrical & Computer Engineering
L. Viola/History
R. C. Vipond/Political Science
C. W. Visser/English
A. Vitkin/Medical Biophysics
W. F. Vogel/Laboratory Medicine & Pathobiology
R. Volpe/Medical Science
R. Volpe/Human Development & Applied Psychology
P. H. von Bitter/Geology
Z. G. Vranesic/Electrical & Computer Engineering
M. Vranic/Physiology

S. Waddams/Law
J. A. Wade/Medical Science
N. K. Wagle/History
M. W. Wahlstrom/Curriculum, Teaching & Learning
R. W. Wald/Medical Science
B. D. Walfish/Religion
A. Walker/Chemistry
J. A. Walker/French Language & Literature
M. B. Walker/Physics
A. M. Wall/Psychology
J. S. Wallace/Mechanical & Industrial Engineering
M. B. Wallace/Classics
M. C. Wallace/Medical Science
S. C. Wallace/Chemistry
C. K. Walter/Music
G. C. Walters/Psychology
C. Wang/Laboratory Medicine & Pathobiology
E. Wang/Health Policy, Management and Evaluation
L-Y. Wang/Physiology
P. Y. Wang/Biomaterials & Biomedical Engineering
Y. T. Wang/Laboratory Medicine & Pathobiology
Z. Wang/Materials Science & Engineering
F. Wania/Chemistry
C. A. Ward/Mechanical & Industrial Engineering
M. Ward/Medical Science
W. K. Wark/History
G. T. Warkentin/English
J. Warkentin/History & Philosophy of Science & Technology
J. J. Warsh/Medical Science
D. A. Wasylenki/Health Policy, Management and Evaluation
A. Waterhouse/Geography
D. B. Waterhouse/East Asian Studies
M. H. Watkins/Political Science
A. M. Watson/Economics
C. Watson/Theory & Policy Studies in Education
J. C. Watson/Adult Education, Community Development & Counselling Psychology
V. M. Watt/Physiology
J. H. Watt-Watson/Nursing Science
T. H. Watts/Immunology
M. Wayne/History
J. R. Webster/Spanish
J. H. Wedge/Medical Science
J. Wei/Management
J. Y. T. Wei/Physics
A. S. Weinrib/Law
E. J. Weinrib/Law
L. E. Weinrib/Law
J. Weinzweig/Music
R. D. Weisel/Medical Science
K. A. Weisman/English
J. Weiss/Curriculum, Teaching & Learning
W. A. R. Weiss/Mathematics
D. A. Welch/Political Science
B. Wellman/Sociology
D. L. Wells/Nursing Science
J. W. Wells/Pharmaceutical Sciences

L. M. Wells/Social Work
P. G. Wells/Pharmaceutical Sciences
S. Welsh/Sociology
B. M. Welsh-Ovcharov/History of Art
A. K. P. Wensley/Management
G. F. West/Physics
C. A. Westall/Medical Science
D. A. Westaway/Laboratory Medicine & Pathobiology
J. A. Westgate/Geology
J. T. Westwood/Zoology
H. Wetzel/Germanic Languages & Literatures
J. W. Wevers/Near & Middle Eastern Civilizations
B. Wheaton/Sociology
M. B. Wheeler/Physiology
J. R. Wherrett/Medical Science
A. D. White/Management
G. White/Political Science
R. R. White/Geography
C. I. Whiteside/Medical Science
G. F. Whitmore/Medical Biophysics
J. B. R. Whitney/Geography
S. G. Whittington/Chemistry
G. Whyte/Management
G. M. Wickens/Near & Middle Eastern Civilizations
F. J. Wicks/Geology
J. Wiener/Human Development & Applied Psychology
B. T. Wigdor/Psychology
E. D. Wigle/Medical Science
A. Wilde/Molecular & Medical Genetics
M. J. Wiley/Anatomy & Cell Biology
J. A. Wilkinson/Drama
J. P. Wilkinson/Information Studies
G. T. Will/Civil Engineering
A. R. Willan/Public Health Sciences
A. P. M. Williams/Health Policy, Management and Evaluation
D. B. Williams/Biochemistry
D. D. Williams/Zoology
G. R. Williams/Biochemistry
J. I. Williams/Public Health Sciences
J. P. Williams/Botany
M. Williams/Political Science
N. J. Williamson/Information Studies
D. M. Willows/Human Development & Applied Psychology
B. R. Wilson/Medical Biophysics
D. Wilson/History
D. N. Wilson/Curriculum, Teaching & Learning
F. F. Wilson/Philosophy
G. J. Wilson/Laboratory Medicine & Pathobiology
I. E. Wilson/Information Studies
T. A. Wilson/Economics
I. Winchester/Theory & Policy Studies in Education
R. Winklbauer/Zoology
M. A. Winnik/Chemistry
G. Winocur/Psychology
M. P. Winsor/History & Philosophy of Science & Technology
F. E. Winter/History of Art
R. A. Winter/Economics
R. Winterbottom/Zoology
N. Wiseman/Political Science
C. Wittnich/Medical Science
J. M. Wojtowicz/Physiology
T. M. S. Wolever/Nutritional Sciences
D. A. Wolfe/Political Science
J. T. Wollesen/History of Art
C. S. Wong/Medical Biophysics
P.-Y. Wong/Laboratory Medicine & Pathobiology
S. S. M. Wong/Physics
W. M. Wonham/Electrical & Computer Engineering
M. L. Wood/Medical Biophysics
J. R. Woodgett/Medical Biophysics
K. A. Woodhouse/Chemical Engineering & Applied Chemistry
E. Woodruff/Human Development & Applied Psychology
D. B. Woodside/Medical Science
D. G. Woodside/Dentistry
T. R. Wooldridge/French Language & Literature
G. A. Woolley/Chemistry
N. S. Wortley/Criminology
D. B. Wortman/Computer Science
J. Wrana/Molecular & Medical Genetics
G. A. Wright/Medical Biophysics
G. R. Wright/Public Health Sciences
J. G. Wright/Public Health Sciences
P. M. Wright/Civil Engineering
P. Wróbel/History
G. E. Wu/Immunology
T.-W. Wu/Laboratory Medicine & Pathobiology
X. Y. Wu/Pharmaceutical Sciences

J. L. Xie/Management

M. Yaffe/Medical Biophysics
M. Yampolsky/Mathematics
N. Yan/Forestry
B. B. Yang/Laboratory Medicine & Pathobiology
A. J. Yatchew/Economics
H. K. C. Yee/Astronomy and Astrophysics
H. Yeger/Laboratory Medicine & Pathobiology
E. L. Yeo/Medical Science
J. S. Yeomans/Psychology
C. C. Yip/Physiology
C. M. Yip/Chemical Engineering & Applied Chemistry
D. York/Physics
K. K. Yoshida/Rehabilitation Science
N. L. Young/Rehabilitation Science
R. P. Young/Civil Engineering
T. C. Young, Jr./Near & Middle Eastern Civilizations

J. H. Youson/Zoology
E. S. K. Yu/Information Studies
X.-M. Yu/Dentistry
Y. Yucel/Laboratory Medicine & Pathobiology
A. K. Yudin/Chemistry
S. Yusuf/Medical Science

E. Zacksenhaus/Laboratory Medicine & Pathobiology
D. Zakus/Nursing Science
S. G. Zaky/Electrical & Computer Engineering
K. Zakzanis/Psychology
D. B. Zamble/Chemistry
N. Zamel/Medical Science
P. W. Zandstra/Biomaterials & Biomedical Engineering
B. W. Zanke/Medical Science
G. A. Zarb/Dentistry
I. M. Zeitlin/Sociology
G. Zekulin/Slavic Languages & Literatures
P. D. Zelazo/Psychology
S. E. Zeller/History & Philosophy of Science & Technology
R. Zemel/Computer Science
L. Zhang/Laboratory Medicine & Pathobiology
P. Zhang/Management
M. Zhen/Molecular & Medical Genetics
S. Zhou/Computer Science
X. Zhu/Economics
J. S. Ziegel/Law
M. Zielenska/Laboratory Medicine & Pathobiology
J. Zilcosky/Germanic Languages & Literatures
A. P. Zimmerman/Zoology
D. W. Zingg/Aerospace Science & Engineering
B. Zinman/Medical Science
R. B. Zipursky/Medical Science
S. H. Zlotkin/Nutritional Sciences
L. Zsuffa/Forestry
J. W. Zu/Mechanical & Industrial Engineering
K. J. Zucker/Psychology
M. A. Zuker/Theory & Policy Studies in Education
S. Zukotynski/Electrical & Computer Engineering
J. C. Zuniga-Pflucker/Immunology

# 8

# Graduate Programs

This section contains an alphabetical listing of all the graduate programs offered by the School of Graduate Studies at the University of Toronto. SGS comprises over 80 graduate units (departments, centres, and institutes) offering approximately 145 programs.

Each graduate unit's offerings are described in a separate entry containing information about that unit's graduate faculty, admission requirements, program requirements, courses of instruction, contact information, and a Web site where you may visit for more details.

# Addiction Studies (Collaborative Program)

**Program Committee**

M. J. Ashley, MSc, MD, DPH/Public Health Sciences ***(Director)***
P. L. Carlen, MD, FRCP(C)/Medical Science
J. M. Cherry, BSc, MLS, PhD/Information Studies
P. G. Erickson, MA, PhD/Sociology, Centre for Addiction & Mental Health
R. G. Ferrence, BA, MA, PhD/Public Health Sciences, Ontario Tobacco Research Unit
R. C. Frecker, BSc, MD, PhD/Biomedical Engineering
W. MaGee, BA, MS, PhD/Sociology
R. Mann, BA, MASc, PhD/Public Health Sciences
C. X. Poulos, BS, MA, PhD/Psychology
E. W. Single, BA, PhD/Public Health Sciences, Canadian Centre on Substance Abuse
B. A. Sproule, BScPhm, PharmD/Pharmaceutical Sciences
L. Stermac, BSc, MA, PhD/Adult Education, Community Development & Counselling Psychology
C. C. Williams, BSc, BA, MSW, PhD/Social Work
N. S. Wortley, BA, MA, PhD/Criminology

*Address:*
M. J. Ashley
CoPAS Director
Department of Public Health Sciences
Room 101, McMurrich Building
12 Queen's Park Crescent West
Toronto, Ontario
Canada
M5S 1A8

*Telephone:* (416) 978-2751
*E-mail:* maryjane.ashley@utoronto.ca

The graduate units of Adult Education, Community Development and Counselling Psychology; Anthropology; Biomedical Engineering; Criminology; Information Studies; Medical Science; Pharmaceutical Sciences; Pharmacology; Psychology; Public Health Sciences; Social Work; and Sociology, 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 Ph.D. programs are included. Students in the collaborative program must be registered in the School of Graduate Studies through one of the departments participating in the program.

**Program Requirements**

All master's students in the collaborative program are required to take PAS 3700H *Multidisciplinary Aspects of Addictions*, plus a half-year course selected from the list of approved courses presented below or a directed reading course.

Ph.D. candidates in the collaborative program are required to take PAS 3700H *Multidisciplinary Aspects of Addictions*, if they have not already done so, plus one additional half-year course (not taken previously) from the approved listing of courses in the collaborative program or a directed reading course.

In addition, students in the collaborative program must meet all requirements of their home department in terms of course work and thesis work. For both the master's and doctoral degree, 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. 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 of Instruction**

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/*M. J. Ashley, R. Mann, C. Williams* |
| PAS 3701H | Advanced Research Issues in Addictions/*R. Mann, P. Erickson* |
| CHL 5119H | Social and Political Perspectives on Drugs and Addictions/ *B. Fischer* |
| CHL 5417H | Tobacco and Health: From Cells to Society/*R. G. Ferrence, J. Cohen* |
| CRI 3240H | Penology/*N. S. Wortley* |
| JPM 1005Y | Behavioural Pharmacology/*E. M. Sellers, D. M. Tomkins, Staff* |
| MSC 1085H | Molecular Approaches to Mental Health and Addictions/ *J. Kennedy* |
| PHM 1107H | Advanced Pharmacokinetics Course I/*J. J. Thiessen, K. S. Pang, L. Endrenyi* |
| PHM 1108H | Advanced Pharmacokinetics Course II/*K. S. Pang, J. J. Thiessen, L. Endrenyi* |

PHM 1110H Chemical Basis of Drug Metabolism/*J. P. Uetrecht, Staff*
PSY 2703H The Psychology of Addictions/*J. Cunningham*
SOC 6123H Sociology of Addiction/*P. G. Erickson*
SWK 4616H Drug Dependence: Treatment Approaches/*W. Skinner, Staff*

# Adult Education, Community Development and Counselling Psychology AEC

## Graduate Faculty

### Full Members

B. Burstow, BA, MA, MEd, PhD
J. R. B. Cassie, BA, MEd, PhD
C. P. Chen, BA, MEd, MA, PhD
A. L. Cole, BA, BEd, MEd, MEd, EdD
P. E. J. Gamlin, BA, MA, PhD
J. R. Gillis, BSc, MA, PhD
M. A. J. Guttman, BEd, MSc, PhD
N. Jackson, BA, MA, PhD
J. G. Knowles, BA, MS, PhD
M. E. Laiken, BA, MA, PhD
D. W. Livingstone, BA, PhD
A. R. Miles, BA, MA, PhD
K. Mirchandani, BA, MA, PhD
S. Mojab, MEd, PhD
R. Ng, BA, MA, PhD
E. V. O'Sullivan, BA, MA, PhD
N. Piran, BA, PhD
J. J. Quarter, BA, MA, PhD
***(Associate Chair)***
M. S. Schneider, BA, MA, PhD
D. Schugurensky, BEd, MEd, PhD
L. Stermac, BSc, MA, PhD
***(Chair)***
J. C. Watson, BA, MA, PhD

### Members Emeriti

J. A. Draper, BA, MSc, PhD
D. E. Hunt, BS, MA, PhD
S. Miezitis, BA, MA, PhD, CPsych
A. M. Thomas, BA, MA, PhD

### Associate Members

D. Abbey-Livingston, BA, MEd
E. M. Antone, BA, BEd, MEd, EdD
R. Blanchard, BA, MA, PhD
D. R. Brecher, BA, MA, EdD
C. Campbell, MBA, EdD
I. Carmichael, MA, MEd, PhD
E. Cole, BA, BEd, MA, PhD
M. E. Fisher-Brillinger, BA, MEd, EdD
L. Fitznor, BA, MEd, EdD
N. Halpern, PEng, MEd, EdD
D. J. Hart, BA, MA, PhD
A. Isla, BA, MA, PhD
K. R. Jasper, MEd, MA, PhD
N. Josefowitz, BA, MSc, PhD
H. Mayer, BA, MEd, PhD
M. McIntrye, BA, MEd, EdD
R. W. McLean, BA, MEd, EdD
S. McMain, BSc, MA, PhD
E. S. Meade, BA, MEd, EdD
S. Minsky, BSc, MA, PhD
R. Moodley, BPhil, MPhil, PhD
N. Rector, BA, MA, PhD
B. J. Richmond, BA, MES, PhD
M. Rothstein, BA, MEd, EdD
J. Silver, BSc, PhD
M. J. Stewart, BA, MSW, PhD
R. Thapa, BEd
B. B. Toner, BA, MA, PhD
N. Veljanovski, BSc, MA, PhD
S. C. Walters, BA, MEd, PhD
R. E. Warner, BA, BEd, MA, EdD

*Address:*
The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Seventh Floor, 252 Bloor Street West
Toronto, Ontario
Canada
M5S 1V6

*Fax:* (416) 926-4749
*Web:* www.oise.utoronto.ca/Bulletin/aecdcp.html

### Application Packages

Initial enquiries and requests for application packages regarding admission to graduate studies in the Adult Education, Community Development and Counselling Psychology Department 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
Canada
M5S 1V6

*Telephone:* (416) 923-6641 ext. 2663
or 1-800-785-3345
*E-mail:* gradstudy@oise.utoronto.ca

Such 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.

### General Information

Program and admission details are printed in the *OISE/UT Bulletin*, available from the OISE/UT Registrar's Office.

The Adult Education, Community Development and Counselling Psychology Department is the second largest of the five departments

within OISE/UT and offers a full range of graduate degrees (M.A., M.Ed., Ph.D., and Ed.D.) in each of two major programs: Adult Education and Counselling Psychology.

**Adult Education**

The Adult Education Program offers three specializations:

**a** Workplace Learning and Change
**b** Learning and Teaching
**c** Community, International, and Transformative Learning

Collaborative master's programs in Environmental Education and in Women's Studies are also available in the Adult Education program.

***Courses of Instruction***

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

*Adult Education*

AEC 1100H Outline of Adult Education/ *D. Schugurensky, Staff*
AEC 1101H Program Planning in Adult Education/*Staff*
AEC 1102H Community Development: Innovative Models/*J. Quarter*
AEC 1103H Introduction to Research Methods in Adult Education/*J. G. Knowles, P. Gamlin, or Staff*
AEC 1104H Community Education and Organizing/*A. Miles*
AEC 1106H Small-Group Experience and Theory/*Staff*
AEC 1107H Developing and Leading High Performing Teams: Theory and Practice/*M. E. Laiken*
AEC 1108H Adult Learning (CR/NCR)/*M. E. Laiken, Staff*
AEC 1110H Basic Processes in Facilitating Adult Learning/ *D. Schugurensky, Staff*
AEC 1113H Gender and Hierarchy at Work/ *K. Mirchandani*
AEC 1114H Comparative and International Perspectives in Adult Education/ *D. Schugurensky, S. Mojab*
AEC 1117H Consulting Skills for Adult Educators/*Staff*
AEC 1119H Creating a Learning Organization/ *Staff*
AEC 1122H Practicum in Adult Education and Community Development (CR/NCR)/*K. Mirchandani, M. E. Laiken or J. G. Knowles*
AEC 1125H Contemporary Issues in Adult Literacy/*Staff*
AEC 1130H A Participant-Directed Seminar: Learning in Organizations/ *M. Laiken, Staff*
AEC 1131H Special Topics in Adult Education (Master's)/*Staff*
AEC 1135H Practicum in Organization Development (CR/NCR)/ *M. Laiken, K. Mirchandani, Staff*
AEC 1137H Evaluation of Adult Education Programs/*Staff*
AEC 1141H Organizations and the Adult Educator: Historical and Theoretical Perspectives on Organization Development/ *M. Laiken, Staff*
AEC 1143H Introduction to Feminist Perspectives on Society and Education/ *A. R. Miles, Staff*
AEC 1145H Participatory Research in the Community and the Workplace/ *Staff*
AEC 1146H Women, Globalization, and Citizenship/*S. Mojab*
AEC 1148H An Introduction to Workplace, Organizational and Economic Democracy/*J. Quarter*
AEC 1150H Critical Perspectives on Organizational Theory, Development and Practice/*K. Mirchandani*
AEC 1152H Individual Reading and Research in Adult Education: Master's Level/*Staff*
AEC 1156H Power and Difference in the Workplace/*S. Mojab*
AEC 1160H Introduction to Transformative Learning Studies/*E. V. O'Sullivan*
AEC 1165H Poetry, Social Movements, and Adult Learning/*Staff*
AEC 1170H Practitioners' Experienced Knowledge/*D. Hunt*
AEC 1171H Treaty Rights and Aboriginal Education: Contemporary Policies and Programs/ *E. Antone*, *Staff*
AEC 1172H Contextual Assessment for Enhancing Classroom Learning/ *S. Miezitis, P. Gamlin*
AEC 1173H Creativity and Wellness: Learning to Thrive/*S. Miezitis*
AEC 1175H Teacher Learning in School Contexts/*A. Cole*
AEC 1177H Cross-Cultural Roots of Identity Development: Intercultural Relations and Creative Lifelong Learning in Plural Societies/ *P. Gamlin*

(CR/NCR) Credit/No Credit

AEC 1178H Practitioner/Ecological Identity and Reflexive Inquiry/*J. G. Knowles*
AEC 1180H Aboriginal World Views: Implications for Education/*L. Fitznor*
AEC 1181H Embodied Learning and Qi Gong/*R. Ng*
AEC 3102H Doctoral Thesis Course in Adult Education (CR/NCR)/*J. Quarter, Staff*
AEC 3103H Teaching about Global and Social Issues/*E. O'Sullivan*
AEC 3104H Political Economy of Adult Education in Global Perspectives/*S. Mojab, Staff*
AEC 3111H Academic and Professional Seminar for Adult Educators/*Staff*
AEC 3113H Adult Education and Public Policy/*S. Mojab*
AEC 3117H Learning and the Law/*Staff*
AEC 3119H Global Perspectives on Feminist Education, Community Development, and Community Transformation/*A. R. Miles, Staff*
AEC 3125H Continuing Education of Professional Personnel: Principles, Modes, and Problems/*Staff*
AEC 3126H Transformative Education and the Global Community: Creativity and Social Change/*E. V. O'Sullivan*
AEC 3131H Special Topics in Adult Education (Doctoral)/*Staff*
AEC 3132H Special Topics in Women in Development and Community Transformation/*Dame N. Barrow (Distinguished Visitor)*
AEC 3138H Social Theories and Adult Education/*D. Schugurensky, Staff*
AEC 3140H Post-Colonial Relations and Transformative Education/*R. Ng*
AEC 3152H Individual Reading and Research in Adult Education: Doctoral Level/*Staff*
AEC 3170H Perspectives on Qualitative Research: Part I/*A. Cole*
AEC 3171H Perspectives on Qualitative Research: Part II/*A. Cole*
AEC 3172H Renewal in Adult Education/*D. Hunt*
AEC 3173H Effecting Change: Creating Wellness/*S. Miezitis*
AEC 3174H Dynamic Instruction: Maximizing the Potential for Learning in a Collaborative/Teaching Environment: Part I/*P. Gamlin*
AEC 3175H Dynamic Instruction: Maximizing the Potential for Learning in a Collaborative/Teaching Environment: Part II/*P. Gamlin*
AEC 3176H Sense of Place in Professional and Natural Contexts/*J. G. Knowles*
AEC 3177H Arts-Informed Perspectives in Educational Research/*A. L. Cole, and/or J. G. Knowles*

*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 1266H Career Counselling and Development: Transition from School to Work/*Staff*
AEC 1275H Special Topics in Counselling Psychology: Youth at Risk–Special Challenges for Counsellors and Educators/*Staff*
AEC 1400H Special Topics in Adult Education and Counselling Psychology/*Staff*
AEC 1405H Introduction to Qualitative Research: Part I/*B. Burstow, Staff*
AEC 1406H Introduction to Qualitative Research: Part II/*B. Burstow, Staff*
AEC 3233H Research Seminar in Career Development/*M. A. Guttman, Staff*
CTL 1303Y Global Education: Theory and Practice/*D. Selby*
CTL 1308H Education and Cosmology/*E. V. O'Sullivan*
HDP 1223H Depression in the Schools: Assessment, Prevention, and Intervention/*S. Miezitis*
SES 1921Y The Principles of Anti-Racism Education/*G. J. S. Dei*
SES 1925H Indigenous Knowledge and Decolonization: Pedagogical Implications/*G.J.S. Dei*
SES 1953H Teaching Conflict and Conflict Resolution: Politics and Practice/*K. Bickmore*
SES 2942H Education and Work/*D. W. Livingstone*

(CR/NCR) Credit/No Credit

SES 2970H Countering Myths about Aboriginal Peoples through Multiple Medias/*J. Iseke-Barnes*
SES 3951H Canadian Political Economy and Education/*D. W. Livingstone*

**Counselling Psychology**
The Counselling Psychology program offers three specializations:
**a** Counselling Psychology for Psychology Specialists
**b** Counselling Psychology for Community and Educational Settings
**c** Guidance and Counselling

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

*Counselling Psychology*
AEC 1202H Theories and Techniques of Counselling/*Staff*
AEC 1203Y Practicum in Counselling/*M. A. Guttman, L. Stermac, J. E. Watson, J. Silver, Staff*
AEC 1205H Individual Intellectual Assessment/*Staff*
AEC 1207H Counselling Topics in Sexual Orientation and Gender Identity Diversity/*J. R. Gillis*
AEC 1208H The Counselling Relationship/*N. Piran*
AEC 1212H Psychological Aspects of Counselling and Teaching New Canadians/*Staff*
AEC 1214H Research Seminar in Multicultural Studies/*R. Moodley*
AEC 1219H Ethical Issues in Professional Practice in Psychology/*M. Schneider, Staff*
AEC 1228H Individual and Group Psychotherapy: Family and Marital Counselling/*Staff*
AEC 1229H Individual and Group Psychotherapy for Counselling/*Staff*
AEC 1243H Seminar in Community Psychology and Community Development/*Staff*
AEC 1245H Brief Counselling Strategies/*Staff*
AEC 1247H Practicum in Adult Counselling (CR/NCR)/*Staff*
AEC 1250H Fundamental Concepts of Psychosynthesis: Part I/*Staff*
AEC 1252H Individual Reading and Research in Counselling Psychology: Master's Level/*Staff*
AEC 1253H Feminist Issues in Counselling Psychology and Psychotherapy/*K. Jasper, Staff*
AEC 1254H Contemporary Issues in Human Sexuality and Sex Education/*M. Schneider*
AEC 1257H Females' Psychological Development/*Staff*
AEC 1261H Group Work in Counselling/*Staff*
AEC 1262H Educational and Psychological Testing for Counselling/*Staff*
AEC 1263H Seminar in Research Methods for M.A. Students/*Staff*
AEC 1266H Career Counselling and Development: Transition from School to Work/*C. Chen*
AEC 1267Y Advanced Practicum in Counselling/*Staff*
AEC 1268H Career Counselling and Development: Transitions in Adulthood/*C. Chen*
AEC 1269H Use of Guided Imagery in Counselling and Psychotherapy/*N. Josefowitz*
AEC 1275H Special Topics in Counselling Psychology (Master's)/*Staff*
AEC 1278H Cognitive Therapy/*M. Rothstein*
AEC 1289H Community Mental Health/*M. Schneider*
AEC 3211H Counselling and Researching in Context: Critical Perspectives on Counselling and Health Promotion Research/*N. Piran*
AEC 3215H Seminar in Counselling Psychology: Part I/*J. Watson*
AEC 3216H Seminar in Counselling Psychology: Part II/*Staff*
AEC 3217Y Practicum in Counselling Psychology/*N. Piran*
AEC 3218H Research Seminar in Counselling/*L. Stermac*
AEC 3224H Individual Personality and Cognitive Assessment/*J. R. Gillis or Staff*
AEC 3225H Assessment and Diagnosis of Personality and Psychopathology/*J. R. Gillis or Staff*
AEC 3233H Research Seminar in Career Development/*M. A. Guttman, Staff*
AEC 3234Y Research Seminar in Multicultural Studies/*R. Moodley*
AEC 3243H Fundamentals of Psychoanalysis: Part I/*Staff*
AEC 3253H Individual Reading and Research in Counselling Psychology: Doctoral Level/*Staff*
AEC 3258H Special Topics in Counselling Psychology (Doctoral)/*Staff*

AEC 3260H Psychopathology and Diagnosis/ *L. Stermac*
AEC 3266H Seminar: Applications of Psychological Analysis and Research Methods/*Staff*

*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/*S. Miezitis*
AEC 3173H Effecting Change: Creating Wellness/*S. Miezitis*
AEC 1400H Special Topics in Adult Education and Counselling Psychology/ *Staff*
AEC 1405H Introduction to Qualitative Research: Part I/*B. Burstow, Staff*
AEC 1406H Introduction to Qualitative Research: Part II/*B. Burstow, Staff*
HDP 1223H Depression in the Schools: Assessment, Prevention, and Intervention/*S. Miezitis*
HDP 3204H Contemporary History and Systems in Human Development and Applied Psychology/ *R. Volpe*

# Aerospace Science and Engineering AER

## Graduate Faculty

### Full Members

G. M. T. D'Eleuterio, BASc, MASc, PhD
C. J. Damaren, BASc, MASc, PhD
J. D. DeLaurier, BS, MS, PhD
J. J. Gottlieb, BSc, MSc, PhD, FCASI
C. P. T. Groth, BASc, MASc, PhD
O. L. Gulder, BSc, MSc, PhD
A. A. Haasz, BASc, MASc, PhD, FCASI
***(Director)***
J. S. Hansen, BASc, MASc, PhD
P. C. Hughes, BASc, MASc, PhD, MBA, FCASI, FCAE
H. T. Liu, BEng, MEng, PhD
L. D. Reid, BASc, MASc, PhD, FCASI, J. Armand Bombardier Chair in Aerospace Flight
***(Associate Director and Coordinator of Graduate Studies)***
J. P. Sislian, MSc, CandPhysMathSci, PhD
P. C. Stangeby, BSc, MSc, DipSci, DPhil
P. A. Sullivan, BEng, MEng, DIC, PhD, FCASI
D. W. Zingg, BASc, MASc, PhD, Senior Canada Research Chair
***(Associate Director )***

### Members Emeriti

J. H. de Leeuw, DipEng, MS, PhD, FRSC, FCASI, FAPS
G. W. Johnston, BASc, MASc, PhD, FCASI
R. C. Tennyson, BASc, MASc, PhD, FCASI

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*Fax:* (416) 667-7743
*Web:* www.utias.utoronto.ca

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.

Graduate programs leading to the M.Eng., M.A.Sc., and Ph.D. degrees are offered. Only the M.Eng. may be taken on a part-time basis. The M.A.Sc. program is research oriented and includes a major thesis, while the M.Eng. program is oriented towards professional engineering practice and consists primarily of course work. Advanced graduate research may be undertaken at the Ph.D. level. The requirement for Ph.D. studies is a research oriented master's degree; the M.Eng. degree does not include thesis work and is not considered to be appropriate preparation for a Ph.D. degree.

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

## Areas of Research

**1 *Flight Mechanics***
Aircraft Design: Stability and control of aircraft, aeroelasticity, lighter-than-air technology, remotely piloted vehicles.
Experimental Flight Mechanics: Air cushion technology, flight research.
Vehicle Simulation: Aircraft, ground vehicle and human-machine systems.

**2 *Fluid Dynamics***
Gasdynamics: Hypersonics, dusty gases, unsteady and high temperature gasdynamics, explosions, blast wave phenomena, turbulent combustion.
Aerodynamics: Subsonic, transonic, supersonic and unsteady aerodynamics, turbulence, aeroacoustics.
Propulsion: Propellers, ram jets, flapping wings, gas turbines.
Computational Fluid Dynamics: Flow solvers for high Reynolds number turbulent and reactive flows, aerodynamic applications, and aerospace propulsion.

**3 *Materials and Structures***
Composite Materials: Structural optimization, impact analysis and response, failure analysis, failure optimization, material property enhancement, thermoplastics.
Structural Analysis and Testing: Finite elements, structural dynamics, elastic stability of structures, space structures.
Fibre-Optic Smart Structures: Fibre-optic structural sensing for intelligent monitoring and damage assessment systems.
Environmental Effects on Materials: Simulation of space and upper atmosphere.

**4 *Spacecraft Mechanics***
Space Vehicles: Dynamics and control of flexible spacecraft, damping, gyroelasticity, system identification, microsatellites.
Space Robotics: Dynamics and control of flexible manipulator systems, variable-geometry truss manipulators, intelligent control systems, neural networks, laboratory simulation of robotic systems.

**5** ***Engineering Physics***
Fusion Energy: Plasma-surface interactions, advanced materials for fusion reactors, ultra-high vacuum systems, fusion fuels, experimental and computer modelling studies on tokamaks.

Many of these research topics apply directly to major scientific and engineering areas of emphasis within the aeronautical and space industry in Canada. Seminars on topics outside the specific technological areas are given by visiting specialists to round out the educational program. The Institute has developed a cooperative research and development program with the Canadian aerospace industry under which qualified employees can pursue a degree program of direct interest to their firms.

UTIAS participates in several federal and provincial Centres of Excellence: Institute for Robotics and Intelligent Systems (IRIS); Intelligent Systems for Innovative Structures (ISIS); and the Centre for Research in Earth and Space Technology (CRESTech).

**Degree of Master of Engineering**
**1** Candidates for the M.Eng. degree shall hold the degree of Bachelor of Applied Science of this University or an equivalent degree in engineering.
**2** Under the guidance of the graduate coordinator or a staff supervisor, a candidate selects a program of study which consists of 12 courses. Individual programs will be arranged to make up for background deficiencies.
**3** The program may be pursued on a full-time or part-time basis.

**Degree of Master of Applied Science**
**1** Candidates for the degree of M.A.Sc. are admitted under the SGS general regulations. Qualified graduates in engineering, mathematics, physics, or chemistry are encouraged to apply. Individual programs will be arranged to make up for any background deficiency.
**2** A program of study will normally consist of five courses, one of which must be AER 1800H *Research Seminar in Aerospace Science and Engineering*, and a thesis based on research or development, selected in consultation with the student's supervisor. All of the required courses must be completed during the first year of the program.
**3** Research performance of M.A.Sc. students is assessed by a Research Assessment Committee (RAC), which includes the student's supervisor.
**4** It is anticipated that M.A.Sc. students will complete their degree requirements in 18 months.
**5** See below for information on the 'direct transfer' option from M.A.Sc. to Ph.D.

**Degree of Doctor of Philosophy**
**1** Candidates for Ph.D. studies must have an M.A.Sc. degree in engineering, mathematics, physics, or chemistry and must have demonstrated ability to perform advanced research. The M.Eng. degree, which consists primarily of course work, is not considered to be appropriate preparation for the Ph.D. program. Applicants with a bachelor's degree who wish to pursue Ph.D. studies at UTIAS will initially be admitted into the M.A.Sc. program and will be considered for direct transfer into the Ph.D. program; see below.
**2** Students with excellent performance in an M.A.Sc. program at UTIAS may be allowed to transfer directly into a Ph.D. program, under the same supervisor, at the end of their first year of graduate study. Approval for transfer will be based on the student's research ability, research progress during the first year and academic standing. In what follows, students transferring from an M.A.Sc. to a Ph.D. program shall be referred to as 'transfer students'.
**3** Ph.D. students must be registered continuously for every session, including the summer session, on a full-time basis until all degree requirements have been completed. Ph.D. students starting with an M.A.Sc. degree must spend a minimum of two years on campus. Transfer students must be on campus for a minimum of three years from the date of registration in the M.A.Sc. program.
**4** Following acceptance into a Ph.D. program, the candidate shall undertake a program of study under the guidance of a Doctoral Advisory Committee (DAC) which includes the candidate's supervisor.
**5** A Ph.D. student's program of study includes course work and a thesis which must be based on research conducted while registered for the Ph.D. program. Ph.D. students starting with an M.A.Sc. degree require four courses. Transfer students need four courses in addition to the five completed prior to the M.A.Sc. to Ph.D. transfer for a total of nine courses. All courses must be completed during the first two years in the Ph.D. program.
**6** It is anticipated that a student with a master's degree in a discipline appropriate to the field of Ph.D. study will complete the Ph.D. 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 M.A.Sc. program. The DAC plays an important role in assisting students to meet this goal. The functions of the DAC are:

**a** to ascertain the suitability of the student for advanced research,
**b** to assess the thesis topic,
**c** to conduct formal reviews of the student's progress at least once a year (unsatisfactory progress may result in the termination of the student's candidacy), and
**d** to provide first assessment of the completed thesis.
**7** Program Milestones:
**a** The first DAC meeting is held within six months of Ph.D. program start (or date of transfer for transfer students); the aim is to identify the topic and scope of the thesis.
**b** Subsequent DAC meetings are held at least once a year.
**c** Upon completion of the thesis, the student presents the thesis at a Departmental Doctoral Seminar before defending it at the Final Oral Examination as prescribed under the SGS degree regulations in this calendar.
**8** Prior to convocation, Ph.D. candidates must prepare at least one formal manuscript, based on the thesis, for publication in a refereed journal or conference proceeding.

## Financial Support

### *Guaranteed Minimum Financial Support*

In accordance with the UTIAS *guaranteed financial support policy*, students with satisfactory academic performance will be guaranteed a minimum level of financial support for year one of M.A.Sc. studies and for years one to four in the Ph.D. program. This minimum level of support will include all external scholarships and fellowships, which students must disclose to the Graduate Office at UTIAS, and a portion of teaching assistantships. The minimum for the current academic year is set at $18,000 for non-visa students and $22,500 for visa students.

Students in years of study not covered by the *guaranteed financial support policy* may receive financial assistance from their supervisors' research grants/contracts.

### *External Scholarships/Fellowships*

We are also pleased to report that students with major external scholarships/fellowships will be offered award supplements, bringing their total financial support significantly above the minimum level. Therefore, students are strongly encouraged to apply for all available external scholarships/fellowships for which they are eligible. Such major scholarships include *NSERC, OGS, and OGSST;* NSERC is restricted to Canadian citizens and permanent residents, but the OGS and OGSST are available to visa students.

### *The Kenneth M. Molson Fellowship for Studies in Aerospace Engineering at UTIAS*

This fellowship is worth up to $27,000. One award is made annually to an outstanding student entering a Ph.D. program or who is in year one of a Ph.D. program at UTIAS. Should the student have external scholarships/fellowships (see above), we shall supplement the external awards up to a total of $27,000 per year. Thus the student will receive multi-year supplements until the $27,000 Molson Fellowship is used up or until the student graduates. The selection will be in accordance with the University's Policy on Student Awards and the conditions specified by the Ontario Student Opportunity Fund program.

### *Teaching Assistantships*

Teaching Assistantships are available to students with appropriate qualifications. Part of the income earned is included in the guaranteed minimum level of support stated above.

## Courses of Instruction

The Department should be consulted each session as to course offerings.

### *Flight Mechanics*

AER 0503H Aeroelasticity/*J. D. DeLaurier*
AER 1202H Advanced Flight Dynamics/*H. T. Liu*
AER 1211H Human Control of Flight Systems/*L. D. Reid*
AER 1214H Airplane Dynamics (Flight Laboratory)/*J. H. de Leeuw*
AER 1215H Aerodynamics and Flight Mechanics of Rotorcraft/*J. H. de Leeuw, L. D. Reid*

### *Fluid Dynamics*

AER 0510H Aerospace Propulsion/*J. P. Sislian*
AER 1301H Kinetic Theory of Gases/*C. P. T. Groth*
AER 1302H Viscous Flows and Boundary Layers/*P. A. Sullivan*
AER 1311H Unsteady Gasdynamics/*J. J. Gottlieb*
AER 1312H High Temperature Compressible Flows/*J. J. Gottlieb*
AER 1314H Dynamics of Dusty Gases (reading course)/*J. J. Gottlieb*
AER 1316H Fundamentals of Computational Fluid Dynamics/*D. W. Zingg*
AER 1318H Topics in Computational Fluid Dynamics/*D. W. Zingg*
AER 1320H Air-breathing Propulsion/*J. P. Sislian*

***Solid Mechanics***

AER 0501H Advanced Mechanics of Structures/*J. S. Hansen*
AER 1401H Introduction to Composite Materials/*J. S. Hansen*
AER 1402H The Finite Element Method and Applications/*J. S. Hansen*
AER 1411H Theory of Composite Materials/*J. S. Hansen*
AER 1412H Theory of Shells (reading course)/*R. C. Tennyson*
AER 1413H Environmental Effects on Materials (reading course)/*R. C. Tennyson*

***Space Systems Engineering***

AER 0506H Spacecraft Dynamics and Control I/*T. Barfoot*
AER 0525H Robotics/*R. Emani*
AER 1503H Spacecraft Dynamics and Control II/*C. J. Damaren*
AER 1512H Multibody Dynamics/*G. M. T. D'Eleuterio*
AER 1520H Microsatellite Design I/*R. E. Zee*
AER 1521H Microsatellite Design II/*R. E. Zee*

***Engineering Physics***

AER 1705H Plasma Physics and Fusion Energy/*P. C. Stangeby*
AER 1716H Fusion Reactor Materials (reading course)/*J. W. Davis*
AER 1717H Applied Plasma Physics I (reading course)/*P. C. Stangeby*
AER 1720H Applied Plasma Physics II (reading course)/*P. C. Stangeby*
AER 1725H Introduction to Surface Analysis/*J. Kleiman*

***Research Seminars and Professional Courses***

AER 1800H Research Seminar in Aerospace Science and Engineering/*Staff (for first-year M.A.Sc. students only)*
AER 1810H M.Eng. Project I/*Staff (for M.Eng. students only)*
AER 1811H M.Eng. Project II/*Staff (for M.Eng. students only)*
JDE 1000H Ethics in Research *(students registered in the M.A.Sc. or Ph.D. programs are required to participate in this non-credit seminar course during their first or second term of registration)*

# Aging and the Life Course (Collaborative Program)

**Program Faculty**

P. Ballantyne, BA, MA, PhD/Pharmaceutical Sciences
J. M. Cherry, BSc, MLS, PhD/Information Studies
R. W. Cockerill, BA, MA, PhD/Health Policy, Management and Evaluation
A. Colantonio, BA, BSc, MHSc, PhD/Rehabilitation Science
C. A. Cott, BPT, PhD, DipP/Rehabilitation Science
B. H. Erickson, BA, MA, PhD/Sociology
G. R. Fernie, BSc, PhD, PEng, CCE/Public Health Sciences
E. Fuller-Thomson, BA, BSW, MSW, PhD/Social Work
J. Globerman, BSW, MHSc, MSc, PhD, CSW/Social Work
R. C. Goode, BPhE, BA, MA, DPhil/Physiology
J. E. Grusec, BA, PhD/Psychology
J. A. Hanningan, BA, MA, PhD/Sociology
C. Jones, BA, MA, PhD/Sociology
S. Katz, BA, MA, PhD/Public Health Sciences
R. B. Lee, BA, MA, PhD, FRS(C), University Professor/Anthropology
D. Locker, BDS, PhD/Dentistry
J. A. Marshman, BScPhm, MSc, PhD/Pharmaceutical Sciences
P. L. McDonald, BA, MSW, PhD/Social Work
H. M. R. Meier, MB, ChB, MSc, FRCPsych, FRCPC/Public Health Sciences
M. Moscovitch, BSc, MA, PhD, Dr. Max and Gianna Glassman Chair of Neuropsychology/Psychology
S. Neysmith, BSc, MSW, DSW/Social Work
D.M. Pringle, BScN, MS, PhD/Nursing Science
A. Robertson, BSc, DPH, PhD/Public Health Sciences
E. A. Rochon, BA, MSc, PhD/Speech-Language Pathology
J. Sadavoy, MD, FRCP(C)/Medical Science
P. A. Square, BSc, MA, PhD/Speech-Language Pathology
S. G. Thomas, BSc, MSc, PhD/Rehabilitation Science
M. Tierney, BA, MA, PhD/Public Health Sciences
D. L. Wells, BA, MHSc, PhD/Nursing Science
L. M. Wells, BA, BSW, MSW, DASW, CSW/Social Work
B. T. Wigdor, BA, PhD/Psychology

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*Fax:* (416) 978-4771
*Web:* www.utoronto.ca/lifecourse/collaborative

The Collaborative Program prepares students for specialization in the field of aging, an area that includes individual human aging and population aging, with an emphasis on viewing aging issues within the perspective of the life course.

Students must apply to and register in a home participating unit (i.e., one of the graduate departments, faculties, or institutes listed below), and follow a course of study acceptable to both that unit and the Collaborative Program in Aging and the Life Course. Applications will be considered for the following degree programs:

| | |
|---|---|
| Anthropology | M.A., M.Sc., Ph.D. |
| Dentistry | M.Sc., Ph.D. |
| Exercise Sciences | M.Sc., Ph.D. |
| Health Policy, Management and Evaluation | M.H.Sc, M.Sc., Ph.D. |
| Information Studies | M.I.St., Ph.D. |
| Medical Science | M.Sc., Ph.D. |
| Nursing Science | M.N., Ph.D. |
| Pharmaceutical Sciences | M.Sc., Ph.D. |
| Psychology | M.A., Ph.D. |
| Public Health Sciences | M.H.Sc., M.Sc., Ph.D. |
| Rehabilitation Science | M.Sc. |
| Social Work | M.S.W., M.S.W./L.L.B., Ph.D. |
| Sociology | M.A., Ph.D. |
| Speech-Language Pathology | M.H.Sc., M.Sc., Ph.D. |

**Application Procedures**

Collaborative programs are administered under the auspices of the School of Graduate Studies. Applicants may apply concurrently to their participating graduate unit and to the Collaborative Program in Aging and the Life Course.

**1** Applicants must apply to a participating graduate unit and comply with the admission procedures of that unit.

**2** Applicants must forward the following to the Program Committee of the Collaborative Program in Aging and 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 résumé or curriculum vitae

**d** a letter explaining how their program of study and specific research interests relate to aging and the life course studies at the graduate level

**e** *for Ph.D. applicants only:* two letters of reference (with specific mention of aging/life course studies background)

**Note:** Students may use copies of official documents (**a** and **b** above) for their application to

the Collaborative Program in Aging and 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) at both the master's and doctoral levels. It is expected that the student's thesis or practicum (whichever is included in their program of study) would be in the area of aging and the life course.

Upon successful completion of the requirements, students receive, in addition to the master's or doctoral degree from the graduate unit, the notation "Completed the Collaborative Program in Aging and the Life Course" on their transcript.

**Core Courses**

***Master's Level***
AGE 2000H Principles of Aging/*P. Ballantyne*

***Doctoral Level***
AGE 3000H Advanced Research Seminar in Aging and the Life Course/*Staff*
(AGE 2000H is a prerequisite for entry into the doctoral level of the Collaborative Program)

**Elective Courses**
CHL 5211H Demographic Analysis/*J. Hsieh*
DEN 1003Y Preventive Dentistry/*H. Limeback*
EXS 5501H Physical Activity and Aging/*R. Goode*
NUR 1053H The Clinical Challenges of Caring for Aging Persons: A Conceptual and Research-Based Approach/*P. G. Dawson*
NUR 1054H Theory and Research Considerations in the Care of Persons with Cognitive Impairment/*D. L. Wells*
NUR 1056H Designing Long-Term Care Environments/*D. Pringle*
PSY 2503H Psychology of Aging/*Staff*
REH1520H Physiological Factors Constraining Rehabilitation of the Elderly/*K. Lundon, S. G. Thomas*
REH 1620H Methodological Issues in Research on Aging and Health/*A. Colantonio, C. Cott*
REH 1640H Sociology of Disability/*K. K. Yoshida*
SOC 6124H The Life Course in Modern Society/*Staff*
SLP 1533Y Aphasias/*E. Rochon*
SLP 1534Y Motor Speech Disorders/*Staff*
SLP 2501H Special Topics in Communication Disorders/*Staff*
SLP 2502Y Specialized Study in Communication Disorders/*Staff*
SWK 4405H Social Gerontology and Social Work/*P. L. McDonald*
SWK 4613H Social Work Practice with the Aged/*J. Globerman*

# Anatomy and Cell Biology ANA

## Graduate Faculty

### Full Members

L. Attisano, BSc, PhD
J. E. Aubin, BSc, PhD
A. A. Axelrad, BSc, MD, PhD, University Professor Emeritus
M. L. Bjerknes, BSc, MSc, PhD
H. Cheng, BSc, MSc, PhD
U. De Boni, BSc, MSc, PhD
R. P. Elinson, BA, PhD
A. O. Jorgensen, MSc, PhD
V. I. Kalnins, BSc, MSc, PhD
B. Liebgott, DDS, MScD, PhD
M. J. Opas, MSc, PhD
P. A. Stewart, BSc, MSc, PhD
I. M. Taylor, MBChB, MD
D. van der Kooy, BSc, MSc, PhD
M. J. Wiley, BSc, MSc, PhD
J. H. Youson, BA, MSc, PhD

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***Due to organizational changes in the Faculty of Medicine, the Department of Anatomy and Cell Biology will no longer exist as a separate department in the near future. Consequently, the Department has ceased to accept new applications. Current students will finish out their programs.***

***Members of the Anatomy and Cell Biology graduate faculty have already or will be joining other graduate units and will be accepting new students in the future. If you have a specific interest in the research program of one of these professors, please contact him or her directly for instructions on where to direct your graduate school application.***

The Department of Anatomy and Cell Biology provides opportunities for candidates who have received their undergraduate training in medicine, dentistry, and science to obtain graduate training in research in mammalian (including human) biology. The objective of this program is to train investigators to be capable of conducting independent biological research programs of excellence.

Research is directed toward the understanding of the fundamental processes controlling structure, growth, development, and function and range from the molecular through cellular to the clinical level. Research programs that cut across traditional disciplinary lines are encouraged. Work usually involves problems in cell biology, neurobiology, or developmental biology.

## Degree of Master of Science

### *Program Requirements*

To be eligible for the M.Sc. degree the candidate must:

**1** Successfully complete and defend a thesis based on a research problem in one of the fields of cell biology, developmental biology, or neurobiology.

**2** Successfully complete such graduate course work as may be required by the supervisory committee. Normally, a candidate with a B.Sc. in biological sciences will complete at least one full-course equivalent.

**3** Attend and participate in ANA 1020Y° *Master's Seminars in Anatomy and Cell Biology* throughout the period of registration.

## Degree of Doctor of Philosophy

### *Program Requirements*

To be eligible for the Ph.D. degree the candidate must:

**1** Complete and successfully defend a thesis in conformity with the regulations of the School of Graduate Studies and based on original research in one of the fields of cell biology, developmental biology, or neurobiology.

**2** Successfully complete such graduate course work in the Department of Anatomy and Cell Biology or a cognate department as may be required by the supervisory committee. Normally, students who enter with an M.Sc. in a related field will be required to complete at least one full-course equivalent, while students who enter from a B.Sc. program will complete two full-course equivalents. Students who transfer from the M.Sc. to the Ph.D. program will normally complete a total of two full-course equivalents, including courses completed while enrolled in the M.Sc. program.

**3** Attend and participate in ANA 1021Y° *Doctoral Seminars in Anatomy and Cell Biology* throughout the period of registration.

The Department of Anatomy and Cell Biology does not require formal examination of the candidate's knowledge of languages other than

°Courses which may continue over a program. The course is graded when completed.

English; however, the lack of such knowledge will not excuse a candidate from familiarity with relevant literature in languages other than English.

**Collaborative Programs in Developmental Biology, Neuroscience, and Toxicology**
A M.Sc. or Ph.D. degree in toxicology or neuroscience or a Ph.D. in developmental biology can be taken through this department. For more details of the collaborative programs, consult the appropriate entries in this calendar.

**Courses of Instruction**
Not all courses are offered every year. Please consult the Department's graduate bulletin board for the Department's course offerings this year.

| | |
|---|---|
| ANA 1002Y | Cellular Basis of Tissue Organization/*A. O. Jorgensen, V. I. Kalnins* |
| ANA 1004H | The Gastrointestinal Epithelium as a Model in Cell and Molecular Biology/*H. Cheng* |
| ANA 1011H | Cytoskeleton and the Spatial Organization of the Cell/*V. I. Kalnins, M. J. Opas* |
| ANA 1020Y° | Master's Seminars in Anatomy and Cell Biology (CR/NCR)/*Staff* |
| ANA 1021Y° | Doctoral Seminars in Anatomy and Cell Biology (CR/NCR)/*Staff* |
| JDB 1025Y | Developmental Biology/*D. van der Kooy, Staff* |
| JNS 1000Y | Fundamentals of Neuroscience: Systems and Behaviour/*Staff* |

(CR/NCR) Credit/No Credit
°Courses which may continue over a program. The course is graded when completed.

# Ancient and Medieval Philosophy (Collaborative Program)

**Program Committee**
D. S. Hutchinson, BA, BPhil, DPhil
***(Director)***
B. C. Inwood, BA, MA, PhD, FRSC, Canada Research Chair
J. C. Magee, BA, MA, PhD

*E-mail:* dshutchinson@trinity.utoronto.ca
*Web:* www.chass.utoronto.ca/~cpamp/

The graduate departments of Philosophy and Classics, and the Centre for Medieval Studies participate in the Collaborative Program in Ancient and Medieval Philosophy. The program operates only at the doctoral level, and students are enrolled in one of the three collaborating units. The program is administered by the Program Committee which is drawn from all three units and is chaired by the Director who is a member of the Committee. The three units contribute courses and provide facilities and supervision of doctoral research.

All candidates must meet the admission criteria of the unit through which they wish to enrol and must fulfil the normal requirements of the Ph.D. in their home unit. Their program of study must also be approved by the Program Committee and must include the following elements:

**1** 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.

**2** 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.

**3** Candidates for the Ph.D. in Ancient and Medieval Philosophy are required to have a reading knowledge of two modern languages other than English.

**4** Each student must take and successfully complete two graduate half-courses, or the equivalent, 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.

Candidates will normally concentrate in either ancient or medieval philosophy, though it is not necessary to indicate such specialization formally. 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.

# Ancient Studies (Collaborative Program)

**Program Committee**
C. F. Bruun, BA, MA, PhD/Classics
E. G. Csapo, BA, MA, PhD/Classics
***(Director)***
M. Koortbojian, BA, MA, PhD/History of Art
R. J. Leprohon, BA, PhD/Near & Middle Eastern Civilizations
L. S. Northrup, BA, MA, PhD/Near & Middle Eastern Civilizations
A. A. Payne, BArch, MA, PhD/History of Art

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**Nature of the Collaborative Program**
The graduate departments of Classics, History of Art, and Near and Middle Eastern Civilizations present a program in Ancient Studies providing an interdepartmental structure in which the expertise of the faculty and the resources of three departments are pooled. This program is at the M.A. and Ph.D. levels and is administered by a Program Committee. This structure provides students with programs of study in which they may cover broad geographical areas over several millennia, such as the impact of the conquests of Alexander the Great on India or the international cultural relationships in the Eastern Mediterranean during the Bronze Age.

The participating departments contribute courses and provide facilities and supervision for graduate research. On occasion students may be able to participate in excavations and other types of archaeological research. Students in the program must apply to and register in one of the participating departments and follow a course of study acceptable to both the participating department and the Ancient Studies Program. Upon successful completion of the requirements, students receive the M.A. or Ph.D degree in their departmental area with the notation "Completed Collaborative Program in Ancient Studies" on their transcripts.

The Program Committee consists of the Graduate Coordinators of the three departments or their delegates, and one member from each of the two departments other than that in which the Director has a primary affiliation.

**Faculty and Range of Course Offerings**
The faculty in the three departments cover a broad spectrum of Ancient Mediterranean and Mesopotamian culture. Classics and the History of Art together are concerned with the cultures of the Bronze Age Aegean and the Greco-Roman world. Classics, with more than 20 graduate faculty in one of the largest and most diverse departments in North America, offers courses in Greek and Roman history, language, and literature. Expertise in the Department of History of Art, with a graduate staff of four in the Ancient field, includes the art and archaeology of the Aegean Bronze Age through the Greek and Roman periods. The Department of Near and Middle Eastern Civilizations is one of the largest of its kind in North America. Study is offered in the archaeology of Egypt, Syria-Palestine and Western Asia, and in the language and literatures of the same (Aramaic language and literature, Biblical Hebrew language and literature, and Egyptology). For specific courses, see the separate departmental listings.

Allied departments such as Anthropology, the Centre for the Study of Religion, Linguistics, Philosophy, and Medieval Studies provide depth, further enhanced by cross-appointments to the University from the Royal Ontario Museum.

*Admission*
Students applying to the program will normally apply through the department in which their past experience and/or future interests lie.

*Program Requirements*
(see also departmental entries for requirements)

**M.A. in Ancient Studies**
The intent of the M.A. in Ancient Studies is twofold: it enables students interested in the Bronze Age Aegean, Greek, and Roman periods to study the material culture of a period as well as the ancient language(s) pertinent to that culture. Alternatively, it allows those students whose interests lie partially outside the defined geographical and temporal scope of the Department of Near and Middle Eastern Civilizations access to the archaeology of cultures contemporary with, or subsequent to, those of their primary interest.

Applicants for the M.A. with 12 full-course equivalents in relevant areas (anthropology, archaeology, art history, Classical or Near Eastern civilizations), having at least a B+ average in these courses, may be admitted to

a one-session program. Others with at least nine relevant full-course equivalents, having at least a B+ in these courses, will be required to do more work in certain areas. Their undergraduate preparation should include at least two full-course equivalents in one relevant ancient language, two full-course equivalents in ancient art and/or archaeology, and one full-course equivalent in ancient history. Some areas of the program may require a second ancient language.

The program requires at least three graduate full-course equivalents, at least one of which must be outside the home department. In a two-session M.A., students are required to take three full-course equivalents during each year with at least three full-course equivalents at the graduate level, at least one of which must be outside the home department.

Those enrolled in this program are strongly advised to have knowledge of a modern language relevant to their preferred area of study; they may be directed by the Coordinating Committee to take up to one undergraduate full-course equivalent for this purpose, especially if contemplating application to the Ph.D. in Ancient Studies.

**Ph.D. in Ancient Studies**

Applicants for the Ph.D. in Ancient Studies should have an M.A. in a relevant area of study, (e.g., Ancient Studies, Classics, Greek and Roman History, Near and Middle Eastern Civilizations). Three graduate full-course equivalents will normally be required, but more may be required in light of the candidate's preparation and research interests. These full-course equivalents will normally be completed in the first year. At least one of the three full-course equivalents must be taken outside the home department.

Applicants for the Ph.D. must demonstrate proficiency in one modern language relevant to their area of study during the first term and a second modern language before the completion of the first year of the program.

Candidates must fulfil requirements in one major field and two minor fields. The major and first minor fields will be tested by special examination. The subject of the major field will be related to the field of the candidate's thesis topic. The subject of the first minor field will develop from graduate course work done by the candidate in a department other than the home department. The requirements for the second minor field will be satisfied by the success of the candidate in passing a course offered by one of the departments of the program, which may be either a regularly offered course or an Independent Studies course.

The major field, the minor fields, the thesis topic, and the name of the supervisor must be submitted to the Department by October 15 of the second year. The amount of time spent in preparation for the first minor field examination and for the major field examination are determined by the home department. These two examinations may be taken in either order. Both must be passed by October 15 of the third year of study.

The candidate will demonstrate proficiency in at least one ancient language (e.g., Akkadian, Aramaic, Egyptian, Greek, Classical Hebrew, Latin, Syriac, Ugaritic) according to the rules of the respective department. Candidates may find it advisable to choose examination on an ancient language other than that of their major and/or minor fields.

Students whose major field involves material culture (e.g., art history and archaeology) will normally be required to spend three months of research outside North America before submission of the thesis.

An aim of the Ph.D. program is to prepare students for a career in university level teaching and research, combining expertise in one or more ancient languages and cultures.

**Courses of Instruction**

Courses of instruction include all those listed in the calendar entries for Classics, History of Art, and Near and Middle Eastern Civilizations. In addition, the program offers a series of Joint Ancient Interconnections Seminars (JAI) which involve contributions from the participating departments.

# Anthropology ANT

## Graduate Faculty

### Full Members

E. B. Banning, BA, MA, PhD
D. R. Begun, MA, PhD
J. P. Boddy, BA, MA, PhD
F. D. Burton, BSc, MA, PhD
M. Chazan, BA, MA, PhD
R. J. Coombe, BA, LLB, JSM, JSD
G. G. Coupland, BA, MA, PhD
G. W. Crawford, BSc, MA, PhD
H. Cunningham, BA, MA, PhD
M. Danesi, BA, MA, PhD, FRSC
G. J. S. Dei, BA, MA, PhD
H. Fabrega, BA, MA
T. M. Friesen, BA, MA, PhD
G. S. Gillison, BA, PhD
M. Heller, BA, MA, PhD
I. Kalmar, BA, MA, PhD
M. J. Lambek, BA, MA, PhD, FRSC
M. A. Latta, BA, MA, PhD
R. B. Lee, BA, MA, PhD, FRSC, University Professor
M. D. Levin, BA, MA, PhD
H. V. Luong, BA, MA, PhD
***(Chair)***
B. S. McElhinny, PhD
A. Molto, PhD
D. M. Pendergast, BA, PhD
S. K. Pfeiffer, BA, MA, PhD
***(Coordinator of Graduate Studies)***
L. A. Sawchuk, BA, MA, PhD
H. P. Schwarcz, PhD, University Professor at McMaster
K. Sieciechowicz, BA, MA, PhD
B. A. Sigmon, BA, MS, PhD
D. G. Smith, PhD
G. A. Smith, MA, PhD
D. H. Turner, BA, MA, PhD

### Members Emeriti

W. P. Carstens, BA, PhD
J. J. Chew, MA, PhD
R. B. Drewitt, PhD
M. R. Kleindienst, BA, MA, PhD
J. Mavalwala, MSc, PhD
T. F. S. McFeat, AM, PhD, FRSC
F. J. Melbye, BA, MA, PhD
S. Nagata, MA, PhD
S. B. Philpott, BA, MA, PhD
A. K. Ray, MSc, PhD
W. J. Samarin, BA, PhD
R. W. Shirley, BA, MA, PhD

### Associate Members

S. C. Bamford, BA, MA, PhD
J. D. Barker, BA, MA, PhD
N. Z. Davis, PhD
S. M. Lehman, BA, MA, PhD
H. Miller, BA, PhD
T. L. Rogers, BA, MA, PhD
C. Shen, BA, MA, PhD
J. Sidnell, BA, MA, PhD
A. von Gernet, MA, PhD
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The Department of Anthropology offers research training and courses of instruction in the fields of archaeology, linguistic anthropology, physical anthropology, and social-cultural anthropology.

### Admission Requirements

Applicants are admitted to the M.A., M.Sc., and Ph.D. programs under the general regulations of the School of Graduate Studies.

All applicants are required to have at least a B+ average, or equivalent, before being considered by the Departmental Admissions Committee. Applicants must also satisfy the Department that they have the appropriate background to enter a particular program of graduate study. In addition to two letters of reference, a brief statement of interest (not exceeding 500 words) is required for the admissions application.

### Masters Programs

The Department offers a Master of Arts degree program in all four sub-fields of Anthropology and a Master of Science degree program, normally in Archaeology and Physical Anthropology.

#### *Degree of Master of Arts*

**1** The M.A. program normally extends over a 12-month period lasting from September to September, formal instruction being offered from September to April.
**2** The M.A. program may also be taken on a part-time basis.
**3** Candidates are required to complete the equivalent of four full courses which must in-

clude ANT 1001H, ANT 1002H, and ANT 2000Y *M.A. Research Paper.*

***Degree of Master of Science***

**1** The M.Sc. program is a two-year program that would normally be expected to be completed by the summer of the second year.
**2** The M.Sc. program may also be taken on a part-time basis.
**3** Candidates are required to complete the equivalent of five full courses, which must include ANT1001H, ANT 1002H, and ANT 2500Y *M.Sc. Research Paper*. Of the other three full courses, 1.5 courses will normally be 'science' courses in archaeology, physical anthropology, or related disciplines depending on the student's program.

**Degree of Doctor of Philosophy**

The Ph.D. 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. At the beginning of the year, each student will submit with the SGS Enrolment Form a Program Statement describing his/her plan to meet program requirements. Each student will normally be involved in fieldwork, in the broad meaning of the term, and in theoretical analysis. Before proceeding to full-time research, candidates must complete these program requirements:
**1** be resident on-campus for one year.
**2** normally complete the equivalent of three full courses, including ANT 1004H.
**3** present and defend a thesis proposal. Students are strongly encouraged to submit and defend their thesis proposal early in the second year of their program.
**4** work under the direction of a supervisor. Applicants are encouraged to indicate departmental members with whom they want to conduct Ph.D. research. (The Department regrets that it cannot admit students to the Ph.D. program, regardless of their qualifications, unless a supervisor is available.)
**5** demonstrate a reading knowledge of a language other than English and additional languages (or appropriate linguistic preparation) for special field situations.

**Collaborative Programs**

The Department of Anthropology participates in the following collaborative programs:
Aging and the Life Course
Addiction Studies
Asia-Pacific Studies
Environmental Studies
Ethnic and Pluralism Studies
International Relations
Semiotics
Women's Studies
For details on these programs, see separate entries in this calendar.

**Courses of Instruction**

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

***General***

| | |
|---|---|
| ANT 1001H | Social Theory and Method in Anthropology |
| ANT 1002H | Evolutionary and Ecological Theory and Method in Anthropology |
| ANT 1004H | Career Development in Anthropology |
| ANT 1096H | Quantitative Methods I/*Staff* |
| ANT 1099H | Quantitative Methods II/*Staff* |
| ANT 1155H,Y | Research (or reading seminar)/ *Staff* |
| ANT 1156H,Y | Research (or reading seminar)/ *Staff* |
| ANT 1157H,Y | Research (or reading seminar)/ *Staff* |
| ANT 1158H,Y | Research (or reading seminar)/ *Staff* |
| ANT 2000Y° | M.A. Research Paper |
| ANT 2500Y° | M.Sc. Research Paper |
| JAC 1001H | Media, Mind, and Society/*Staff* |
| 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/*E. B. Banning, R. M. Farquhar* |
| ANT 4020H,Y | Archaeology Theory and Technique/*Staff* |
| ANT 4022H,Y | Culture Resource Management/ *M. A. Latta* |
| ANT 4025H | Archaeology of Eastern North America/*Staff* |
| ANT 4026H | Arctic Archaeology/*T. M. Friesen* |
| ANT 4027H,Y | Archaeology of Western North America/*Staff* |
| ANT 4028H | Archaeology of the Northeast/ *Staff* |
| ANT 4035H | Far Eastern Culture History/*G. W. Crawford* |
| ANT 4036H | Archaeobotany/*G. W. Crawford* |

°Courses which may continue over a program. The course is graded when completed.

ANT 4037H,Y Faunal Archaeo-Osteology/*T. M. Friesen*
ANT 4038H Archaeology of Urban Development/*Staff*
ANT 4039H Origin and Nature of Food Producing Societies/*D. G. Smith*
ANT 4040H Archaeology of Hunter-Gatherers/*T. M. Friesen*
ANT 4041H Landscape Archaeology/*E. B. Banning*
ANT 4050H Zooarchaeology/*T. M. Friesen*
ANT 4060H Specific Problems: Old World/*Staff*
ANT 4061H Ecological Perspectives in Archaeology/*Staff*
ANT 4065H Specific Problems: New World/*G. G. Coupland*
ANT 4066H Household Archaeology/*G. Coupland*
ANT 4067H Historical, Industrial, and Ethnohistoric Archaeology: the Science of Documented Societies/*M. Latta*

***Linguistic Anthropology***

JAL 1145H Introduction to Field Methods/*Staff*
JAL 1155H Language and Gender/*B. McElhinny*
JAL 1170H Language Typology/*Staff*
JAL 1171Y Dialectology/*J. Chambers*
ANT 5142Y Language in Anthropological Thought/*Staff*
ANT 5143Y Areal Studies in Linguistic Anthropology: Africa, East Asia, North America, Oceania/*Staff*
ANT 5144H Advanced Topics in Linguistic Anthropology/*H.V. Luong*
ANT 5145H Classic Texts in Cultural Studies/*I. Kalmar*
ANT 5162Y Ethnography of Communication/*Staff*
ANT 5167H Language, Ideology, and Political Economy/*H. V. Luong*

***Medical Anthropology***

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

***Physical Anthropology***

ANT 3004H Advanced Topics in Primatology/*Staff*
ANT 3005H Advanced Topics in Palaeoanthropology/*D. R. Begun*
ANT 3010H Advanced Topics in Human Osteology/*S. K. Pfeiffer*
ANT 3011H Advanced Topics in Human Biology and Genetics/*Staff*
ANT 3031H,Y Advanced Research Seminar I/*Staff*
ANT 3032H,Y Advanced Research Seminar II/*Staff*
ANT 3033H,Y Advanced Research Seminar III/*Staff*
ANT 3034H,Y Advanced Research Seminar IV/*Staff*
ANT 3040H Hunter-Gatherers in Evolutionary Perspective/*S. Pfeiffer*
ANT 3430Y Paleoanthropology Fieldwork/*D. Begun*
ANT 3439H Advanced Seminar in Forensic Anthropology/*Staff*

***Social and Cultural***

ANT 6001H Development of Anthropological Thought I/*Staff*
ANT 6002H Development of Anthropological Thought II/*Staff*
ANT 6003H Critical Issues in Ethnography I/*Staff*
ANT 6004H Critical Issues in Ethnography II/ *Staff*
ANT 6020H Global Culture and Constructions of the Local/*G. A. Smith*
ANT 6031H,Y Advanced Research Seminar I/*Staff*
ANT 6032H,Y Advanced Research Seminar II/*Staff*
ANT 6033H,Y Advanced Research Seminar III/*Staff*
ANT 6034H,Y Advanced Research Seminar IV/*Staff*
ANT 6035H,Y Advanced Research Seminar V/*Staff*
ANT 6036H,Y Advanced Research Seminar VI/*Staff*
ANT 6037H,Y Advanced Research Seminar VII/*Staff*
ANT 6038H,Y Advanced Research Seminar VIII/*Staff*
ANT 6040H Approaches to Fieldwork I/*Staff*
ANT 6041H Approaches to Fieldwork II/*Staff*
ANT 6050H Reading Course in Specific Area and Theory I/*Staff*
ANT 6051H Reading Course in Specific Area and Theory II/*Staff*
ANT 6052Y Reading Course in Specific Area and Theory III/*Staff*
RLG 2087Y Aboriginal Religion in Comparative Perspective/*D. H. Turner*

# Architecture, Landscape, and Design

## Graduate Faculty

### Full Member

R. el-Khoury, BFA, BArch, MScAS, MArch, PhD
D. Mertins, BArch, MA, PhD
L. W. Richards, BArch, MArch
***(Dean)***

### Members Emeriti

K. Dunker, DipIngArch
A. Eardley, AADip(Hons), MA
D. H. Lee, BArch, MSc, MBA
J. Stinson, DipArch(Hons), MA
B. L. van Ginkel, BArch, MCP

### Associate Members

P. Bélanger, BLA, MLA
T. Bessai, BArch, MArch
D. Bowick, BEng
D. Carter, MA, MArch
R. Comay, BA, MA, PhD
J. W. Danahy, BLA, CUrbDes, MScUrb&DesPl
J. Dougan, BSc, MSc
I. Elias, BLA, BA, OCAD
E. Fife, BLA, MLA
S. Fong, BArch, MArch
R. Glover, BArch
K. Greenberg, BA, BArch
C. Hubert, BA, MArch
A. Jones, BArch, MA
G. Kapelos, ABM, MCP, MArch
T. J. Kesik, BASc, MASc, PhD, PEng
R. Levit, BA, MArch
A. T. Liu, BA, MArch
M. L. Lobsinger, BArch, MArch
M. Meredith, BArch, MArch
P. Mezei, BES, BArch
D. Nash, BES, MArch
D. Naylor, BLA
J. O'Keefe, BASc, MSc
D. Oleson, BArch
A. Payne, BA, MA
A. A. Payne, BArch, MA, PhD
E. Pedersen, BLA, MUP
G. Petricone, BArch, MArch
S. Powadiuk, BA(Hons), BFA
M. Rankin, BLA
J. Roche, BFA, MLA
S. Ruptash, BArch
B. Sampson, BArch
P. Sandori, DipIngArch
P. Scrivano, PhD
B. Shim, BES, BArch
J. Shnier, BES, BArch
M. Starr, BES, BArch
M. Sterling, BES, BArch
K. Sugden, BSc, BES, BArch
F. Urban, AB, MA, BFA, PGS
T. van Eslander, BA, BArch, MArch
S. Williamson, BA, MArch
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The Faculty of Architecture, Landscape, and Design offers three graduate programs leading to the degrees of Master of Architecture, Master of Landscape Architecture, and Master of Urban Design.

### Degree of Master of Architecture

The Master of Architecture (M.Arch.) 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 change. The greater Toronto region is used as an urban laboratory for the development of new knowledge and forms of practice.

#### *Admission Requirements*

The M.Arch. is a 3.5-year program intended for individuals with a 4-year bachelor's degree (B.A., B.Sc., B.A.Sc.) demonstrating a final year grade point average of at least mid-B, and showing leadership potential in the field. The following courses are required for admission: secondary calculus, secondary physics, and university architectural history (half-credit). Preparation in the visual arts, such as drawing, sculpture, graphics, photography, film, or new media, as well as computing and advanced writing skills is recommended. 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.

***Program Requirements***

Students are required to take a total of 17.5 full-course equivalents (FCE): 15.0 are in core courses and 2.5 are in electives. Within the elective requirements 1.0 FCE must be in the History and Theory stream. The program is normally expected to be completed in 7 sessions (3.5 years). If undertaken on a part-time basis, the time limit is 6 years. There is no language requirement for this program 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.

**Courses of Instruction**

***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

*Professional Practice*

ARC 3051H Professional Practice 1
ARC 4052H Professional Practice 2

***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

*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 2038H Modern Italian Architecture and Urban Design History
ARC 3031H Analysis of Architectural Form
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 3037H Global Architecture: Urban Analysis and Documentation

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

**Degree of Master of Landscape Architecture**
The Master of Landscape Architecture (M.L.A.) 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.

***Admission Requirements***
The M.L.A. is a three-year professional program for individuals who have completed any four-year bachelor's degree (B.A., B.Sc., B.A.Sc., B.E.S., B.F.A., B.Com.) with a minimum average of B, and have demonstrated leadership potential in the field. Preference is given to individuals who have completed a balanced undergraduate education that includes study in the arts, sciences, and humanities. The following specific courses at the undergraduate level are highly recommended: 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 is recommended.

***Program Requirements***
Students are required to take a total of 15.5 full-course equivalents (FCE): 13.5 are in core courses and 2.0 are in electives. Within the elective requirements, 1.0 FCE must be in courses offered by the Faculty. The remaining 1.0 FCE will be taken in other academic divisions of the University. The program is completed in 3 years. If undertaken on a part-time basis, the time limit is 6 years. 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.

**Courses of Instruction**

***Core Courses***

*Design*
LAN 1011Y Design Studio 1
LAN 1012Y Design Studio 2
LAN 2013Y Design Studio 3
LAN 2014Y Design Studio 4
LAN 2015H Thesis Research and Preparation
LAN 3016Y Design Studio Options
LAN 3017Y Design Studio Thesis

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

*History and Theory*
LAN 1031H History Theory Criticism 1
LAN 1032H History Theory Criticism 2
LAN 3018H Contemporary Issues in Urban Landscape Design

*Technology*
ARC1042H Site Engineering and Ecology
LAN 1042H 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

*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 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 |

**Degree of Master of Urban Design**

The Master of Urban Design (M.U.D.) program prepares architects and landscape architects for design-based research and professional practice at the urban and regional scales.

The M.U.D. 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.

***Admission Requirements***

The M.U.D. is a two-year, post-professional program open to applicants with a professional degree in architecture (B.Arch. or M.Arch.) or landscape architecture (B.L.A., M.L.A.). Individuals with a degree in urban planning (M.C.P., M.U.P., or M.Sc.Pl.) may be considered for admission if their studies included a design specialization or if they have professional design experience. All candidates must submit a portfolio of design work for review. Candidates 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.

***Program Requirements***

Students are required to take a total of 10.0 full-course equivalents (FCE): 5.0 FCE are in core courses including option studios, 2.0 are in thesis, and 3.0 are in electives. Two of the elective courses are to be selected from offerings in the History, Theory, and Criticism category. The program is normally expected to be completed in 2 years. If undertaken on a part-time basis, the time limit is 6 years.

**Courses of Instruction**

***Core Courses***

*Design*

| | |
|---|---|
| URD 1011Y | Urban Design Studio |
| URD 1012Y | Urban Design Studio Options |
| URD 2012Y | Independent Studio in Urban Design |
| 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 |
| PLA 1651H | Planning and Real Estate Development |
| PLA 1655H | Urban Design and Development |
| URD 2014H | Thesis Research and Preparation |

***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 |

# Asia-Pacific Studies (Collaborative Program)

**Full Members**
L. Brandt, BS, MS, PhD/Economics
T. J. Brook, BA, AM, PhD/History
J. Brownlee, BA, MA, MPh/History
A. G. Daniere, MPP, PhD, MCIP/Geography
W. K. Dobson, BScN, MPA, SM, PhD/Management
M. W. Donnelly, BS, MA, PhD, David Chu Professor of Asia-Pacific Studies/Political Science
V. C. Falkenheim, BA, MA, PhD/Political Science
P.-C. Hsiung, BA, MA, PhD/Sociology
H. V. Luong, BA, MA, PhD/Anthropology ***(Director)***
V. W. Maclaren, BA, MRP, MSc, PhD, MCIP/Geography
J. W. Salaff, BA, MA, PhD/Sociology
A. Schmid, BA, MA, PhD/East Asian Studies
M. A. Szonyi, BA, MA, DPhil/History

**Associate Members**
J. Barker, BA,PhD/Anthropology
J. Bertrand, BA, MSc, MA, PhD/Political Science
A. Boland, BA, PhD/Geography
E. Cazdyn, BA, MA, PhD/East Asian Studies
J. Wong, BA, MA, PhD/Political Science

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**Nature of the Collaborative Program**
Graduate units in Anthropology, East Asian Studies, Economics, Geography, History, Management, Political Science, and Sociology 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 supervision for master's level research. This program is administered 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 in the collaborative M.A. program are political economy, modern and contemporary social history, international relations, gender, political and social change, economic development, and cultural studies. The collaborative master's degree program in Asia-Pacific Studies contributes to the development of an integrated and interdisciplinary research community in Asia-Pacific Studies at the University of Toronto.

Applicants to the collaborative master's degree program in Asia-Pacific Studies are expected to meet the admission and degree requirements of both a home unit and the program 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 collaborative 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.

**Application Procedures**
Candidates must apply to one of the participating home graduate units and must also submit a supplementary application to the collaborative program. In order to qualify for admission to the collaborative master's degree program in Asia-Pacific Studies, applicants must be offered admission to a participating graduate unit. Applicants must forward to the Director of the collaborative master's degree program the following:
- a copy of the School of Graduate Studies Application Form or, for M.B.A. applicants, the Rotman School of Management Application Form submitted to a participating home graduate unit,
- official undergraduate and graduate transcripts from all institutions attended previously and currently,
- at least two letters of reference with specific mention of Asia-Pacific Studies background or Asia-Pacific experiences
- a statement of purpose

**Admission Requirements**
To be considered for admission to the collaborative master's degree program in Asia-Pacific Studies, applicants should have taken the equivalent of four full-year courses with substantial Asia coverage by the time of application, or should have had substantial working or living experience in East or Southeast Asia.

**Program Requirements**
**1** ASI 1000Y
**2** A full-course equivalent that may be
**a** a master's thesis,
**b** a major research paper in one of the full-year courses related to Asia-Pacific, or
**c** a thesis-equivalent research paper in an independent research half-course. This option must be combined with an additional half-course on Asia-Pacific listed in the program booklet.
**3** Normally the completion of a 300-level (third-year) undergraduate course in Chinese, Japanese, or Korean with a minimum grade of B+ (or equivalent); or of a 200-level (second-

year) undergraduate course in another language of East or Southeast Asia with a minimum grade of B+ (or equivalent). For a student without any background in Chinese, Japanese, or Korean, this requirement can normally be met by two year-long courses and a summer language course, or two summer courses and one year-long course. For a student choosing to specialize in other parts of East Asia or in Southeast Asia, the language requirement can normally be met by two summer courses, or one summer course and a year-long course. For students in special cases (interest in environmental studies, international management, and possibly others), the language requirement may be reduced, subject to the joint approval of the Program Director in Asia-Pacific Studies and the graduate coordinator in the home department. The language requirement can be fulfilled either before entering the program or during a student's enrolment in the program.

**Courses of Instruction**

ASI 1000Y Issues in Asia-Pacific Studies

Please consult the Asia-Pacific Studies program booklet for courses offered by participating graduate units.

# Astronomy and Astrophysics AST

## Graduate Faculty

### Full Members

R. G. Abraham, BSc, DPhil
C. T. Bolton, BS, MS, PhD
J. R. Bond, BSc, MS, PhD, FRS, FRSC, Fellow CIAR, Fellow APS, University Professor
R. G. Carlberg, BSc, MS, PhD
W. H. Clarke, BA, MA, PhD
***(Coordinator of Graduate Studies)***
C. M. Clement, BSc, MA, PhD
C. C. Dyer, MSc, PhD
L. Kofman, MSc, PhD, Fellow CIAR
J. B. Lester, BA, MS, PhD
P. G. Martin, BSc, MSc, PhD
***(Chair)***
C. Matzner, AB, MA, PhD
S. W. Mochnacki, BSc, MSc, PhD
N. W. Murray, BS, PhD, Canada Research Chair
C. B. Netterfield, BSc, PhD
U.-L. Pen, BSc, MSc, PhD
J. R. Percy, BSc, MA, PhD
S. M. Rucinski, BSc, PhD
E. R. Seaquist, BASc, MA, PhD
A. C. Thompson, BS, PhD
M. van Kerkwijk, MA, PhD
H. K. C. Yee, BASc, PhD, Canada Research Chair
Y. Wu, PhD

### Members Emeriti

M. J. Clement, BSc, MSc, PhD
R. F. Garrison, BA, PhD

### Associate Members

J. Dubinski, BSc, MSc, PhD

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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 work and consult with leading theorists who are appointed to or are visiting CITA. In total, there are approximately 100 faculty, post-doctoral fellows, graduate students, and staff in the Department of Astronomy and Astrophysics and in CITA. Students also benefit from direct interactions with the broad range of external speakers invited to the weekly Department and CITA seminar programs and colloquia.

The David Dunlap Observatory (DDO) houses a 1.88-m telescope, the largest in Canada, which is equipped with efficient CCD spectroscopic instruments. DDO also provides shops for electronic and mechanical work. Faculty and students enjoy access to the Magellan 6.5-m telescopes and 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. Applicants from Canadian institutions have preferred access. An endowment fund supports student travel for observations and conferences.

Additional research facilities of the Department include the largest astronomy and astrophysics library in Canada and abundant computing power provided by departmental computers. With CITA, there is a high-performance parallel-computing centre for theoretical astrophysics. Major software packages from NASA, the National Radio Astronomy Observatory, the National Optical Astronomy Observatory, and elsewhere are maintained on the departmental computers.

The Department offers Master of Science and Doctor of Philosophy degree programs, outlined below, and cooperates with CITA and the Department of Physics to offer a Collaborative Master of Science program in Astrophysics.

### Admission Requirements

**1** Candidates are accepted under the general regulations of the School of Graduate Studies. Applicants who were educated outside Canada should pay particular attention to the English language competency requirements.
**2** Because many universities do not offer extensive undergraduate training in astronomy

and astrophysics, preparation in physics and mathematics is an acceptable background for candidates.

**3** Candidates are strongly advised to take the verbal, quantitative, and advanced physics tests of the Graduate Record Examination administered by the Educational Testing Service, Princeton.

## Degree of Doctor of Philosophy

### *Program Requirements*

**1** It is intended that the degree program be completed in five years (15 sessions). Candidates are normally expected to be on campus full time for the duration of their program.
**2** Candidates are immediately engaged in original research through two required research courses, AST 1501Y and AST 1500Y, with different supervisors. An oral exam by committee is held for each.
*Schedule:* AST 1501Y is normally completed during the fall/winter of the first year, and AST 1500Y is completed in the following summer.
**3** The core of the program is 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.

As a first step, a candidate is required to prepare a written Ph.D. thesis proposal (possibly, but not necessarily, on a theme emerging from one of the first two research courses) and defend it in an oral examination conducted by a panel of faculty members.

The intention of this "qualifying examination" is to assess the candidate's ability and readiness to carry forward and successfully complete independent Ph.D.-level research. This assessment is based on the candidate's graduate record to date, including graduate lecture courses and research performed, together with the presentation and defence of the proposed Ph.D. thesis.
*Schedule:* The qualifying examination is taken after four and within five sessions of beginning the program. Candidates register each year, beginning in the second year, in the research course AST 400*Y (in sequence of the last digit: 2, 3, etc.).
**4** Candidates follow an approved program of study including:
**a** the research courses AST 1500Y, AST 1501Y, and AST 400*Y (in sequence of the last digit: 2, 3, etc.) and
**b** a minimum of four half-courses, at least two of which are from among the AST Elective or Specialized Courses, subject to the approval of the instructor, the candidate's Ph.D. program committee, and the Department.

More courses may be taken for credit or audited as appropriate.
*Schedule:* The required half-courses are normally taken on average one per session in the fall and winter sessions during the first two years of the program.

## Degree of Master of Science

### *Program Requirements*

**1** Candidates are immediately engaged in original research through two required research courses, AST 1501Y and AST 1500Y.
*Schedule:* AST 1501Y is normally completed during the fall/winter of the first year, and AST 1500Y is completed in the following summer.
**2** Candidates follow an approved program of study including:
**a** the research courses AST 1500Y, AST 1501Y, and
**b** a minimum of four half-courses, at least two of which are from among the AST Elective or Specialized Courses, subject to the approval of the instructor, the candidate's M.Sc. program committee, and the Department.

More courses may be taken for credit or audited as appropriate.

## Collaborative Program in Astrophysics

The Departments of Astronomy and Astrophysics, Physics, and CITA cooperate to offer a Master of Science program in astrophysics. For details, consult the Astrophysics (Collaborative Program) entry in this calendar.

## Courses of Instruction

### *Preparatory Courses*

| | |
|---|---|
| AST 1410H | Stars |
| AST 1420H | Galactic Structure and Dynamics |
| AST 1430H | Cosmology |
| AST 1440H | Radiation Processes and Gas Dynamics |

### *Research Courses for M.Sc. Students*

| | |
|---|---|
| AST 1500Y | Directed Research |
| AST 1501Y | Introduction to Research |

### *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
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 Ph.D. Students***

AST 3500H Non-Thesis Research Project in Astronomy/Astrophysics

# Astrophysics (Collaborative Program)

**Program Committee**
C. C. Dyer, MSc, PhD/Astronomy and Astrophysics ***(Director)***
N. W. Murray, BS, PhD, Canada Research Chair/CITA
J. E. Sipe, BSc, MSc, PhD/Physics

**Participating Faculty**
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J. Dubinski, BSc, MSc, PhD/Astronomy and Astrophysics
C. C. Dyer, MSc, PhD/Astronomy and Astrophysics
L. Kofman, MSc, PhD, Fellow CIAR/CITA
J. B. Lester, BA, MS, PhD/Astronomy and Astrophysics
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J. X. Mitrovica, BASc, MSc, PhD/Physics
G. W. K. Moore, BSc, PhD/Physics
N. W. Murray, BS, PhD, Canada Research Chair/CITA
C. B. Netterfield, BSc, PhD/Astronomy and Astrophysics, Physics
W. R. Peltier, BSc, MSc, PhD, FRSC, University Professor/Physics
U.-L. Pen, BSc, MSc, PhD/CITA
T. G. Shepherd, BSc, PhD/Physics
P. K. Sinervo, BSc, PhD/Physics
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The graduate units of Astronomy and Astrophysics, Physics, and the Canadian Institute for Theoretical Astrophysics participate in the Collaborative M.Sc. Program in Astrophysics. This program fosters graduate education in Astrophysics, particularly in those areas of study that overlap traditional departmental boundaries.

**Admission Requirements**
Application for admission to the Collaborative M.Sc. Program in Astrophysics must be made through one of the two participating home departments, this being either Astronomy and Astrophysics or Physics. In addition, the applicant must submit a supplementary brief application form to the Collaborative Program Director (available from either home department or the Collaborative Program office). 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 and the home department. This will normally require the equivalent of ten half-courses as follows:
- three or more half-courses in Astronomy and Astrophysics
- three or more half-courses in Physics
- two half-courses from Astronomy and Astrophysics, Physics or a cognate department
- a supervised research project in the field of astrophysics, equivalent to two half-courses

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.

In addition, the student 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.

Upon certification by the Director that all requirements of the Collaborative Program have been fulfilled, the home department will recommend the granting of the M.Sc. degree, and the designation “Completed Collaborative Program in Astrophysics” will appear on the transcript.

# Biochemistry BCH

## Graduate Faculty

### Full Members

L. Attisano, BSc, PhD
R. R. Baker, BSc, PhD
D. Bazett-Jones, BSc, MSc, PhD
C. E. Bear, BSc, MSc, PhD
G. Brown, BSc, PhD
J. W. Callahan, BSc, MSc, PhD
N. Camerman, BSc, PhD
A. Chakrabartty, BSc, MSc, PhD
H. S. Chan, BSc, MA, PhD, Canada Research Chair
D. M. Clarke, PhD
P. W. Connelly, BA, PhD
A. R. Davidson, BSc, PhD
C. M. Deber, BSc, PhD
J. D. Forman-Kay, BSc, PhD
J. F. Forstner, BA, MD, PhD
J. Glover, BSc, MSc, PhD
S. Grinstein, BBcBio, DSc, FRSC, Pitblado Chair in Cell Biology
J. W. Gurd, BA, PhD
C. W. V. Hogue, BSc, PhD
W. Houry, BSc, MSc, PhD
P. L. Howell, BSc, PhD
C. J. Ingles, BSc, PhD
D. E. Isenman, BSc, PhD
L. E. Kay, BSc, PhD, Canada Research Chair
F. W. Keeley, BSc, PhD
A. Klip, MSc, PhD, FRSC
P. N. Lewis, BSc, PhD
C. A. Lingwood, BSc, PhD
D. H. MacLennan, BSc, MSc, PhD, FRSC, FRS, University Professor
A. Marks, MD, PhD
L. A. Moran, BSc, PhD
E. F. Pai, DrRerNat, Canada Research Chair
R. Pomès, BEng, PhD, Canada Research Chair
G. G. Privé, BSc, PhD
D. E. Pulleyblank, BSc, PhD
M. L. Rand, BSc, PhD
R. Reithmeier, BSc, PhD
***(Chair)***
J. M. Rini, BSc, PhD
B. H. Robinson, BSc, PhD, Canada Research Chair
D. Rotin, BSc, MSc, PhD
J. M. Segall, BSc, PhD
C.-H. Siu, PhD
C. Smibert, BSc, PhD
J. Sodek, BSc, PhD
B. Steipe, MD, PhD
W. S. Trimble, BSc, PhD
D. B. Williams, BSc, MSc, PhD
***(Coordinator of Graduate Studies)***
C. M. Yip, BASc, PhD, PEng, Canada Research Chair

### Members Emeriti

R. Anwar, BSc, MSc, PhD
A. Bennick, MSc, DDS, PhD, DipPerio
T. Hofmann, DipChem, DrScTech
A. Kuksis, BSc, MSc, PhD, FRSC
B. G. Lane, BA, PhD
H. G. Lawford, BSc, PhD
M. A. Moscarello, BA, MD, PhD
R. K. Murray, MB, MS, MD, PhD
M. A. Packham, BA, PhD, FRSC, University Professor Emeritus
R. H. Painter, BSc, PhD
J. K. Reed, BA, MSc, PhD
B. Sarkar, BPharm, MPharm, PhD
H. Schachter, BA, MD, PhD, FRSC
G. R. Williams, BSc, PhD, DSc, FRSC

### Associate Members

R. E. Bishop, BSc, PhD
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M5S 1A8

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*Fax:* (416) 978-8548
*E-mail:* chair.biochemistry@utoronto.ca
*Web:* bioinfo.med.utoronto.ca

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 M.Sc. and Ph.D. 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.

### Admission Requirements

Normally we consider applications from students who have at least a B+ average in their last two years of study in an Honours/Specialist B.Sc. program in Biochemistry/Molecular Biology as well as from students with strong academic credentials in Honours/Specialist programs in disciplines related to Biochemistry/Molecular Biology.

In addition applicants must arrange for the completion of personal reference forms from three individuals familiar with their academic performance.

Applicants who obtained a degree outside Canada are generally required to have an M.Sc. 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 and TWE (Essay Writing) scores. The minimum scores required for admission are 580 for the paper-based TOEFL and 237 for the computer-based TOEFL. The TWE or Essay Writing score must be at least 5. A MELAB score of at least 92 is also acceptable.

**Degree of Master of Science**

Each candidate for the M.Sc. degree must complete any courses that were a condition of acceptance and:

**1** complete one session of BCH 2021H *Selected Topics in Biochemistry*, and

**2** participate in BCH 2020Y° *Master's Seminar Course in Biochemistry*.

Each candidate must present a thesis and successfully complete an oral examination on his/her research and related aspects of biochemistry before being recommended for the degree.

**Degree of Doctor of Philosophy**

Candidates are accepted into the Ph.D. program through one of three routes:

**1** via reclassification from the M.Sc. program;

**2** on completion of an M.Sc. degree in biochemistry or a cognate discipline;

**3** directly from a B.Sc. 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.

Candidates for the Ph.D. must complete any courses that were a condition of acceptance and:

**1** one and one-half internal or external (from cognate departments) graduate-level courses, including at least one session of BCH 2021H *Selected Topics in Biochemistry*, and

**2** participate in BCH 2022Y° *Doctoral Seminar Course in Biochemistry*.

**Residence Requirements**

Under normal circumstances, M.Sc. and Ph.D. students will be expected to participate as full-time students and to maintain full-time status in their laboratories until thesis completion and final defence.

**Collaborative Programs**

The Department participates in the following collaborative programs:

**1** Biomedical Engineering
**2** Biomolecular Structure
**3** Developmental Biology
**4** Neuroscience

For more details consult the separate entries in this calendar.

**Courses of Instruction**

BCH 1371H Laboratory Course in Biochemistry (BCH 371)*

BCH 1421H Protein Structure and Functions—Lectures (BCH 421H)* (2002-2003 will be the last academic year this course is offered)

BCH 1422H Cell Surface Biochemistry—Lectures (BCH 422H)*

BCH 1426H Signal Regulating Metabolic Pathways—Lectures (BCH 426H)* (Available 2002-2003)

BCH 1430H Nucleic Acid Biochemistry—Lectures (BCH 430H)* (2002-2003 will be the last academic year this course is offered)

BCH 1440H Protein Biosynthesis - Lectures (BCH 440H)*

BCH 1471Y Advanced Biochemistry—Laboratory (BCH 471Y)* (pre-requisite: BCH 371* or equivalent)

BCH 2020Y° Master's Seminar Course in Biochemistry (CR/NCR)

BCH 2021H Selected Topics in Biochemistry: Advanced lectures to supplement the above lower-numbered courses in Biochemistry
Fall, 2002: Transmembrane and Intracellular Signalling
*Course Coordinator: D. Rotin, L. Attisano*
Spring, 2003: Molecular Aspects of Ion Transport
*Course Coordinator: R. Reithmeier, C. Bear*
Fall, 2003: Glycobiology/*J. Rini, R. Bishop*
Spring, 2004: Cell-Cell Interaction Molecules and Their Role in Metastasis/*C.-H. Siu, J. Sodek*

BCH 2022Y° Doctoral Seminar Course in Biochemistry (CR/NCR)

*Listing in the Faculty of Arts and Science (course description).
°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

| | |
|---|---|
| JBB 1425H | Biophysical Methods—Lectures (BCH 425H)* |
| JBB 2025H | Protein Crystallography—Lectures. *Joint course offered by the staff of Biochemistry, Medical Biophysics, and Molecular and Medical Genetics.* (May be available Spring 2002-2003, please contact the Department) |
| JBB 2026H | Protein Structure, Folding and Design (Available Fall 2002-2003) |
| JBI 1428H | Molecular Immunology—Lectures (JBI 428H)*/*Joint course offered by staff of Biochemistry and Immunology* |
| JBL 1507H | Biochemistry of Inherited Disease/*Joint course offered by staff of Biochemistry and Clinical Biochemistry* (Available 2002-2003) |
| JNP 1017H | Current Topics in Molecular and Biochemical Toxicology *Course Coordinator: P.J. O'Brien, Pharmacy* (Available 2002-2003) |
| JNR 1444Y | Fundamentals of Neuroscience: Cellular and Molecular—Lectures (PSL 444Y)*/*Joint course offered by Staff of Anatomy and Cell Biology, Biochemistry, Pharmacology, and Physiology* (Available 2002-2003) |

*Listing in the Faculty of Arts and Science (course description).

# Bioethics

Graduate study in bioethics at the University of Toronto is offered in two streams:
**1** Collaborative Program in Bioethics
**2** Master of Health Science in Bioethics
The Collaborative Program in Bioethics is a research-stream program (master's and doctoral). The Master of Health Science in Bioethics is a professional-stream master's program.

Full details on both programs appear below.

*Address:*
University of Toronto
Joint Centre for Bioethics (JCB)
88 College Street
Toronto, Ontario
Canada M5G 1L4

*Telephone:* (416) 978-0871
*Fax:* (416) 978-1911
*E-mail:* margot.smith@utoronto.ca

**COLLABORATIVE PROGRAM IN BIOETHICS**
*Web:* www.utoronto.ca/jcb/Education/cpb.htm

### Program Committee

D. Ainslie, BSc, MA, PhD/Philosophy
S. R. Benator, MBChB, FRCP/Public Health Sciences
J. M. Boyle, BA, PhD/Philosophy
A. S. Chambon, BA, MA, BSW, PhD/Social Work
R. J. Cook, AB, MA, MPA, JD, LLM, JSD/Law
A. Daar, DPhil, FRCP(Lond), FRCS, FRCS(C)/Public Health Sciences, Medical Science
R. B. Deber, SB, SM, PhD/Health Policy, Management & Evaluation
B. M. Dickens, LLB, LLM, PhD, LLD, Dr. William M. Scholl Chair in Health Law and Policy/Law
G. Donner, RN, BScN, MA, PhD/Nursing Science
E. Etchells, MSc, MD, FRCP(C)/Medical Science
C. Harrison, PhD/Medical Science
W. R. C. Harvey, BSc, BA, MA, PhD, LLB/Philosophy
P. Hébert, MD, PhD/Medical Science
R. C. Hutchinson, BSc, BD, MA, ThD/Religion
G. Koren, MD, FRCP(C)/Medical Science
N. Lazar, MD, BSc/Medical Science
L. Lemieux-Charles, BScN, MScN, PhD/Health Policy, Management & Evaluation
M. M. A. Lemmens, CandIur, LicIur, LLM/Law
H. Maclean, BSc, MSc, DipNutr, EdD/Nutritional Sciences
D. K. Martin, PhD/Public Health Sciences ***(Director)***
P. D. McKeever, BN, MSc(A), PhD/Nursing Science
M. McKneally, MD, PhD/Medical Science
K. P. Morgan, BA, MA, MEd, PhD/Philosophy
L. J. Muzzin, BA, MA, MA, PhD/Pharmaceutical Sciences
D. Novak, AB, MHL, rabbinical diploma, PhD/Religion
E. Peter, BScN, MScN, PhD/Nursing Science
A. Robertson, BSc, DPH, PhD/Public Health Sciences
M. Rowell, BA, MA, RN, OND, DipNEd/Medical Science
L. E. Schmidt, BA, MA, PhD/Religion
E. L. Shorter, BA, MA, PhD, FRSC/Medical Science
M. Silberfeld, BSc, MDCM, MSc, CRCP/Medical Science
P. A. Singer, MD, MPH, FRCPC/Medical Science
I. L. Stefanovic, BA, MA, PhD/Philosophy
L. W. Sumner, BA, MA, PhD, FRSC/Philosophy
R. P. Thompson, BA, MA, PhD/Philosophy
R. E. G. Upshur, MA, MD, MSc, FRCP(C)/Family and Community Medicine
D. L. Wells, BA, MHSc, PhD/Nursing Science
A. P. M. Williams, PhD/Health Policy, Management & Evaluation

The graduate units of Health Policy, Management and Evaluation; Law; Medical Science; Nursing Science; Philosophy; Public Health Sciences; and Religion collaborate to offer master's (LL.M., M.A., M.H.Sc., M.N., M.Sc.) and doctoral (Ph.D., S.J.D.) programs in Bioethics.

Students with an interest in bioethics register in one of the graduate units associated with the Collaborative Program in Bioethics (CPB). Successful candidates who complete the requirements of the home graduate unit and the CPB are awarded a degree from the home unit, and the notation "Completed Collaborative Program in Bioethics" will appear on their transcript.

### Admission Requirements

Candidates for master's and doctoral programs apply 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. Suggested deadline is March 31.

Applicants should check with individual home units for the minimum grade requirement for admission. Normally, successful completion of a master's degree in a similar area of study is the minimum requirement for admission to a doctoral program. Applicants should not expect that meeting the minimum requirement will guarantee admission.

### Application

An application form, available on the Web, must be completed and sent to the Secretary, Collaborative Program in Bioethics, and be accompanied by:
**1** an up-to-date *curriculum vitae*;
**2** up-to-date copies of transcripts;
**3** a one-page letter of intent (outlining research the applicant plans to conduct, reasons why the

project was chosen, and what research methodology will be used to complete the project); and
**4** two letters of reference.

If a candidate applies to more than one unit, a copy of each file must be submitted to the Secretary, Collaborative Program in Bioethics.

The Joint Centre for Bioethics' Web site lists Research Network Coordinators and Bioethicists who are available for advice relating to research proposals.

**Program Requirements**

Students will be expected to meet the requirements of their 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 department:
**1** PHL 2145H—a review of the philosophical foundations of bioethics.
**2** MSC 3001Y—issues and case studies in bioethics.
**3** One half-course, normally from the home department; see suggested list below. Please note that these courses are not offered every year. Consult the individual departments or their Web sites for details. The program of study must meet the approval of the Director of the CPB.
**4** All doctoral candidates must complete a thesis. Master's programs require either a thesis or equivalent research project as determined by the home department. All students completing a research thesis must have their thesis proposals approved by their home graduate unit and the Director of the Collaborative Program. The thesis will be supervised by a thesis committee comprising a supervisor and two other members. Thesis supervisors must have appointments to the graduate faculty and will normally be members of the Bioethics Collaborative Program Committee. Ordinarily members of the thesis committee and examining professors (or other professionals) are drawn from other relevant disciplines. 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, and requirements for such projects will be determined by the home unit.

**Courses of Instruction**

***Health Policy, Management and Evaluation***

| | |
|---|---|
| HAD 5712H | Canadian Health Politics and Health Policy |
| HAD 5741H | Health Law |
| HAD 5765H | Case Studies in Health Policy |
| HAD 5766H | Ethical and Legal Issues in the Health Field |
| HAD 5771H | Resource Allocation Ethics |

***Law***

| | |
|---|---|
| LAW 257H | Legal Approaches to Bioethics |
| LAW 267H | Medical Jurisprudence |
| LAW 386H | Reproductive Sexual Health Law |
| LAW 404H | Health System Law and Policy |
| LAW 411H | Research and Biotechnology: Regulatory and Ethical Issues |

***Medical Science***

| | |
|---|---|
| MSC 1051H | Research Bioethics |
| MSC 1052H | Clinical Bioethics |

***Nursing Science***

| | |
|---|---|
| NUR 1013H | Transcultural Health Care Issues |
| NUR 1016H | Social and Political Issues in Health Care |
| NUR 1020H | Conceptualization and Design of Nursing Research |
| NUR 1024H | Qualitative Research: Foundations, Methods, and Design |

***Philosophy***

| | |
|---|---|
| PHL 2131H | Ethics |
| PHL 2132H | Seminar in Ethics |
| PHL 2133H | Topics in Ethics |

***Public Health Sciences***

| | |
|---|---|
| CHL 5001H | Canada's Health Care System |
| CHL 5111H | Qualitative Research Methods |
| CHL 5301H | Introduction to Clinical Epidemiology |
| CHL 5302H | Measurement in Clinical Research |
| CHL 5304H | Clinical Decision Making and Cost Effectiveness |

***Religion***

| | |
|---|---|
| RLG 2007H | Ethics, Society, and Technology |
| RLG 2018H | Religion and Bioethics |

## MASTER OF HEALTH SCIENCE IN BIOETHICS

*Web:* www.utoronto.ca/jcb/Education/mhsc.htm

### Program Co-Directors

W. R. C. Harvey, BSc, BA, MA, PhD, LLB/Philosophy
P. A. Singer, MD, MPH, FRCPC/Medical Science

The M.H.Sc. in Bioethics, offered through the Institute of Medical Science (IMS), is for practitioners who wish to increase their knowledge and skills in bioethics. It assists them in their roles as clinician/teachers and as members of bioethics committees. It is a professional master's degree program that does not require a thesis. Students interested in a research-stream program are directed to the Collaborative Program in Bioethics listed above. The M.H.Sc. in Bioethics is offered in a modular format, in 20 two-day Thursday/Friday blocks, to attract practitioners not only locally but also throughout the province and across Canada. The M.H.Sc. is among the first of its kind in Canada and in North America.

### Admission Requirements

Normally, entry into the M.H.Sc. program requires four years of undergraduate study and a recognized degree in one of the health care sciences (for example, M.D., B.Sc.N., B.Sc.OT, B.Sc.PT, B.S.W.) or equivalent. Suitable preparation for entry (including the equivalency of undergraduate education) will be determined by the Co-Directors of the M.H.Sc. Program in Bioethics.

### Application

Applicants are required to submit:
**1** a pre-application form (available on the Web);
**2** an up-to-date *curriculum vitae;*
**3** two sets of complete and up-to-date, original university academic transcripts in separate sealed and signed envelopes, one of which must be sent directly to IMS by the university issuing the transcripts;
**4** a letter of intent or professional goals, no longer than 1000 words, in which applicants outline:
**a** their reasons for pursuing admission into the M.H.Sc. in Bioethics,
**b** their background preparation for work in bioethics,
**c** an estimate of any remaining background preparation that must be undertaken before the program starts in September (e.g., what courses, program, etc. remain to be completed, and where),
**d** main area(s) of bioethical interest,
**e** how they expect to use their graduate education in bioethics in the home institution or home country;
**5** letters of recommendation from three referees attesting to the applicant's skills, knowledge and character (academic preparation and capacity; capacities for interpersonal and collegial study, research and practice). One letter need not cover all aspects of these requirements, but all three together must do so. In the case of international applicants, one of these three letters must be from a mentor who will supervise the applicant in the home country;
**6** a letter from the institution if the applicant is currently employed by an institution (health care or otherwise). The letter must be from a senior administrator; for example, Department Chair, Dean, Hospital CEO or VP). This letter states agreement to provide the necessary professional release time for completion of the program. It must also clarify the institution's view of how the applicant's graduate education will assist the development of bioethics in the home institution. In the case of international applicants, this letter must also state agreement to provide a leadership position in bioethics for the applicant when he or she returns to the institution in the home country;
**7** a writing sample in English demonstrating the applicant's analytical and argumentative skills, preferably in bioethics.

Pre-application forms must be sent before **March 30** to the Secretary, M.H.Sc. in Bioethics, University of Toronto Joint Centre for Bioethics, at the address listed above. In the case of international applicants, the deadline is **March 1**. All documentation must be received by the deadline; exceptional applicants may be admitted before that date. Incomplete applications will not be considered. Enrolment is limited and even if applicants meet the prerequisites, admission is not guaranteed. Normally a class of 10 but no more than 15 students will be accepted. Interviews of applicants whose pre-applications have been accepted are normally held in late April/early May, and successful applicants will then be notified and asked to complete application forms for admission to the School of Graduate Studies (SGS) through IMS. The deadline for completion of SGS forms is June 1 for applicants from Canada and the U.S., and April 15 for applicants from outside Canada and the U.S.

**Required Courses**
In order to accommodate the diverse background education and training of applicants, all courses are understood as "or equivalent".

| | |
|---|---|
| HAD 5771H | Resource Allocation Ethics |
| LAW 257H | Legal Approaches to Bioethics |
| MSC 1051H | Research Bioethics |
| MSC 1052H | Clinical Bioethics |
| MSC 3001Y | Foundations Seminar I |
| MSC 3002Y | Foundations Seminar II |
| MSC 3003Y | Empirical Approaches in Bioethics |
| MSC 3004Y | Ethics Committees and Consultations |
| MSC 3006Y | Bioethics Independent Study |
| MSC 3008Y | Practicum |
| PHL 2146Y | Topics in Bioethics |

For international students, MSC 3004Y *Ethics Committees and Consultations* is not required. Instead, MSC 3010Y *International Research Ethics* is required and is taken in May and June.

**JOINT CENTRE FOR BIOETHICS**
*Web:* www.utoronto.ca/jcb

Both the Collaborative Program in Bioethics and the M.H.Sc. in Bioethics are associated with the University of Toronto Joint Centre for Bioethics (JCB). Students are encouraged to take advantage of the various activities at the JCB. These include lectures by visiting professors, the opportunity to participate in hospital ethics committees and clinical ethics consultations (for CPB students only), interest groups, rounds, and colloquia on new developments. There is a weekly Bioethics Seminar held during the academic session. Students in the CPB meet regularly to present and discuss their individual research topics and to maintain the collaborative nature of the program. Ten Research Networks have been established focusing on Child Health; Consent and Trust; Culture; End of Life; Genetics and Ethics; Mental Health and Addictions; Organizational Ethics and Health Policy; Rehabilitation Ethics; Research Ethics; and Women's Health.

# Biomedical Communications

## Graduate Faculty

### Full Members

D. de Kerckhove, BA, MA, PhD, Dip 3ème Cycle, FRSC/French
C. J. Lumsden, BSc, MSc, PhD/Medical Science
L. Spero, BPhm, PhD/Pharmacology
P. A. Stewart, BSc, MSc, PhD/Anatomy & Cell Biology
I. M. Taylor, MBChB, MD/Anatomy & Cell Biology

### Associate Members

D. Aldrich, BSc, MEd/Surgery
G. Chubb, BFA/Sheridan College
R. Cohen/Sheridan College
C. Godkin, BSc, MSc, AOCA/Surgery
J. Jenkinson, BA, MScBMC
A. Katzman, MA/Sheridan College
L. Lax, BScAAM, MEd/Surgery
M. B. Mackay, BScAAM/Surgery
D. Mazierski, BScAAM/Surgery
S. Nancekivell, MA/Surgery
J. Sayers, AOCA/Sheridan College
J. L. Semple, BSc, MSc, MD, FRCS(C)/Surgery
M. Simon/Sheridan College
L. Wilson-Pauwels, AOCA, BScAAM, MEd, EdD/Surgery ***(Director)***
N. Woolridge, BFA, BScBMC, MSc/Surgery

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University of Toronto
Toronto, Ontario
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*Fax:* (416) 978-6891
*E-mail:* bmc.info@utoronto.ca
*Web:* www.bmc.med.utoronto.ca/BMC/

The two-year Master of Science in Biomedical Communications (M.Sc.BMC) professional graduate degree program is offered through the Institute of Medical Science. Applicants with interdisciplinary art and science backgrounds develop the necessary skills to become outstanding visual communicators in the health sciences. BMC graduates work in a variety of areas such as health science centres, industry, academia and/or research, or as private consultants in these areas.

While in the program, students produce visual material that synthesizes scientific data and medical processes. Popular specializations are the creation and evaluation of interactive, computer-based multimedia programs and animation for teaching and learning. Presently there are two fields offered in the graduate program: Biomedical New Media (video, CD-ROM, Web), and Biomedical 3-D Animation.

Biomedical New Media is concerned with the creation and evaluation of interactive, computer-based multimedia for teaching and learning. Interpretive visualization, human-computer interaction, content organization and audience analysis all play important roles in the creation and evaluation of these materials.

Biomedical 3-D Animation involves the creation of full-motion visualizations of medical processes and syntheses of scientific data. This specialization is part of a new stream of study in medical computer animation offered in collaboration with Sheridan College. Students receive a Master of Science degree in Biomedical Communications (M.Sc.BMC) as well as a Postgraduate Certificate in 3-D Animation from the intensive eight-month animation program at Sheridan College.

### Admission Requirements

Students are admitted under the general regulations of SGS and must have graduated from a recognized university with a minimum of a four-year undergraduate degree (or a medical, veterinarian, dental, master's, or doctoral degree). This degree should include a variety of courses in the arts, sciences, and humanities. Applicants must have obtained at least a mid-B standing (73-76% or 3.0 based on a 4-point scale) in their final two years of undergraduate study. A high-quality portfolio of visual material is required. Consult the M.Sc.BMC Web site for the list of prerequisite courses required for admission.

### Program Requirements

The M.Sc.BMC program consists of 17 half-credit course equivalents. Students have the option to select either 2 elective half-course equivalents and a master's research project and paper or 4 elective half-course equivalents and a master's project.

In Year II of the gradaute program, students enter the New Media field or the 3-D Animation field offered in the M.Sc.BMC Combined Program with Sheridan College.

### Courses of Instruction

Faculty should be consulted each term as to course offerings.

#### *Required Courses*

LMP 1012H Seminars on Pathology/*M. Khalifa*

MSC 1001Y Human Anatomy (Including Embryology)/*I. M.Taylor*
MSC 2001Y Theories of Perspective, Colour, and Design/*L. Wilson-Pauwels, Staff*
MSC 2002Y Relationships Between Content, Medium, and Audience/ *M. B. Mackay, Staff*
MSC 2003Y Technology in Biomedical Communications/*N. Woolridge, D. Mazierski*
MSC 2004H Research Methods/*S. Nancekivell*
MSC 2005H The Evolution of Medical Illustration/*M. B. Mackay, Staff*
MSC 2009H Ethics and Professionalism in Biomedical Communications (CR/NCR)/*L. Wilson-Pauwels*
MSC 2012H Neuroanatomy for Visual Communications/*I. M.Taylor*
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 2006H Technology in Biomedical Communications—Advanced/ *N. Woolridge*
MSC 2007H Visual Synthesis of Scientific Data and Medical Processes/ *L. Wilson-Pauwels*
MSC 2008H Visual Communication for Health Promotion/*L. Wilson-Pauwels*
MSC 2011H Special Topics in Biomedical Communications/*Staff*
MSC 2014H Biological Illustration/*C. Godkin*

***Combined Animation***
The following courses are required for students who choose and are accepted into the Combined Animation program.

JSS 2015H Animation Design/Methods/ *C. Lumsden, M. Simon*
JSS 2016H Animation Systems Labs/ *N. Woolridge, J. Sayers*
JSS 2017H Animation Technology/ *N. Woolridge, J. Sayers*
JSS 2018H Animation Applications/*L. Wilson-Pauwels, A. Katzman*

(CR/NCR) Credit/No Credit

# Biomedical Engineering BME

## Graduate Faculty

### Full Members

S. L. Adamson, BSc, MSc, PhD
H. L. Atwood, BA, MA, PhD, DSc, FRSC
J. E. Aubin, BSc, PhD
B. L. Bardakjian, BEd, BSc, MASc, PhD, PEng
E. R. Bogoch, BA, MSc, MD, PhD
E. L. Boynton, MD, FRCP(C)
Y.-L. Cheng, SB, SM, PhD
D. W. Courtman, BSc, MSc, PhD
D. S. Cvitkovitch, BSc, MSc, PhD, Canada Research Chair
J. E. Davies, BSc, PhD, BDS, DSc
S. W. Davies, BSc, MSc, PhD, MBA
D. A. Deporter, DDS, PhD, DipPerio
F. DiCosmo, BSc, PhD
A. M. Dolan, BSc, MSc
D. J. Doyle, BSc, MASc, MEng, MD, PhD, FRCP(C), PEng
J. Drake, BS, MBBCH, MSc, FRCS
A. C. Easty, BSc, PhD, PEng, CCE
M. Eizenman, BASc, MASc, PhD
C. R. Ethier, BSc, MMath, SM, PhD, PEng, Canada Research Chair
G. R. Fernie, BSc, PhD, PEng, CCE
R. C. Frecker, BSc, MD, PhD, LMCC
A. A. Goldenberg, BSc, MSc, PhD, FIEEE, PEng
A. Gross, PhD, MD
M. D. Grynpas, MSc, PhD
P. E. Hallett, BSc, BM, MA
R. V. Harrison, BSc, PhD, DSc
D. F. James, BSc, MA, MS, PhD, PEng
K. W. Johnston, MD, FRCS(C), FRCP(C)
M. L. G. Joy, BSc, MASc, PhD, PEng
R. A. Kandel, MD, FRCP(C)
A. Khoury, MB, BCh
H. Kunov, MSc, PhD, PEng
H. C. Kwan, BASc, MSc, PhD
D. Li, BASc, MSc, PhD
P. Milgram, BASc, MSEE, PhD, PEng
M. Milner, BSc, PhD
S. Naumann, BSc, MSc, PhD
K. H. Norwich, BSc, MSc, MD, PhD
M. Ojha, BSc, MSc, PhD
D. D. Perovic, BASc, MASc, PhD
R. M. Pilliar, BASc, PhD, PEng
M. R. Popovic, MSc, MASc, PhD
K. P. H. Pritzker, BSc, MD, FRCP(C)
D. T. Reid, BSc(OT), MEd, PhD
J. P. Santerre, BSc, MScEng, PhD
B. A. Saville, BSc, PhD
M. V. Sefton, BASc, ScD, FCIC
***(Director)***
M. S. Shoichet, SB, MS, PhD, Canada Research Chair
M. Silverman, BSc, MDCH, FRCP(C)
F. Skinner, BMath, MASc, PhD
A. S. Slutsky, BASc, MASc, MD, PhD
B. H. Strauss, MD
M. Thompson, BSc, PhD, DSc, FRSC, FCIC
S. J. Thorpe, BASc, MASc, PhD
R. D. Tomlinson, BSc, MSc, PhD
K. J. Vicente, BASc, MS, PhD
P. Y. Wang, BSc, PhD
C. A. Ward, BS, PhD, PEng
G. J. Wilson, BSc, MSc, MD, FRCP(C)
W. Wong, BSc, MSc, PhD
K. A. Woodhouse, BEng, PhD, PEng
***(Associate Director and Coordinator of Graduate Studies)***
C. M. Yip, BASc, PhD, PEng, Canada Research Chair
P. W. Zandstra, BEng, PhD, Canada Research Chair

### Members Emeriti

R. S. C. Cobbold, BSc, MSc, PhD, FRSC
D. C. Smith, MSc, PhD, DSc, FRSC(UK), CChem, FBSE

### Associate Members

H. Cameron, MB, ChB, ECFMG, FRCS
T. Chau, BASc, MASc, PhD, PEng
C. Gemmell, PhD, MD
W. Gentles, BASc, MASc, PhD
D. Howarth, PhD
H. B. Michaels, BASc, MSc, PhD
F. Shein, BSc, MEng, PhD
J. M. Smith, BSc, BE(Hons), MASc, PhD
R. N. S. Sodhi, BSc, MSc, PhD
P. A. Watson, DDS, MScD
C. Whyne, BSc, PhD
J. Winslow, PhD

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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 Engineering Program through the Institute. It is also the home of the Collaborative Program in Biomedical Engineering.

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, proteomics and bioinformatics.

**Admission Requirements**
An applicant must be a graduate in dentistry, engineering, medicine, or one of the physical or biological sciences and may be accepted as a graduate student in the Institute of Biomaterials and Biomedical Engineering. Alternatively, students may choose to register in the Collaborative Program in Biomedical Engineering through a collaborating graduate department. See Biomedical Engineering (Collaborative Program) entry in this calendar.

**Program Requirements**
Students who wish to register in the Biomedical Engineering Program or the Clinical Engineering Program will register in the School of Graduate Studies through the Institute of Biomaterials and Biomedical Engineering and will meet all respective degree requirements as described by the School of Graduate Studies.

As part of these requirements, engineering and physical science students will be required to take a life sciences course, such as JPB 1022H (or an equivalent); while life science students will be expected to take a physical sciences course, such as JPB 1055H (or an equivalent). Students will pursue a thesis topic relevant to Biomedical Engineering and will be expected to take BME 1450H *Bioengineering Science*.

Students are also required to participate in two seminar courses: one of BME 1010H or BME 1011H IBBME *Graduate Students Seminar* series, and JDE 1000H *Ethics in Research*.

**Degree of Master of Applied Science**
The work leading to the degree of Master of Applied Science (M.A.Sc.) provides an opportunity for the student to pursue advanced studies in biomedical engineering and the opportunity to engage in research. The program of study will normally comprise at least four half-courses, including BME 1450H and an appropriate life science or engineering course, and the successful completion of a thesis in the biomedical engineering field.

**Degree of Master of Health Science, Clinical Engineering**
A program in Clinical Biomedical Engineering, leading to the degree of Master of Health Science (M.H.Sc.), is offered to selected students who hold the degree of Bachelor of Applied Science of this University or an equivalent degree in engineering. The program normally includes ten half-courses, including one full course, which involves periods of internships in health care facilities, and a research project. All requirements for the degree must be completed within three years. No more than five students will be admitted each year.

**Degree of Doctor of Philosophy**
Candidates are normally admitted to the Ph.D. program after completing the master's program; however, direct admission to the Ph.D. program may be considered in exceptional cases. The program of study for each candidate in Biomedical Engineering normally comprises at least four half-courses and successful completion of a thesis, representing an original investigation in biomedical engineering.

**Biomedical Engineering (Collaborative Program)**
Consult the entry in this calendar or contact the Institute for details.

**Courses of Instruction**
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/*A. M. Dolan, Staff*
BME 1413H Biological Communication Processes/*H. Kunov*
BME 1420H Chemistry of Biological Systems I/*P. Y. Wang*

BME 1421H Chemistry of Biological Systems II/*P. Y. Wang*
BME 1430H Mathematical Theory of Tracer Kinetics/*K. H. Norwich*
BME 1436H Clinical Engineering/*D. J. Doyle*
BME 1439H Clinical Engineering Instrumentation II/*A.M. Dolan, Staff*
BME 1442H Rehabilitation Engineering/ *M. Milner, S. Naumann, D. T. Reid*
BME 1445H Special Topics in Clinical Engineering/*A. M. Dolan, Coordinator*
BME 1446H Transduction of Physiological Events/*A. M. Dolan, U. Ackerman*
BME 1448H Cardiovascular Fluid Mechanics/ *M. Ojha*
BME 1450H Bioengineering Science /*M. Ojha*
BME 1452H Signal Processing for Bioengineering/*S. Davies*
BME 1453H Cell Tissue Engineering
BME 4444Y Practice in Clinical Engineering/ *A. M. Dolan*
CHE 1310H Chemical Properties of Polymers/ *M. V Sefton*
DEN 1070H Advances in Dental Materials/ *J. P. Santerre*
DEN 1081H Bone Interfacing Implants/*J. E. D. Davies/M. Mittelman/R.M. Pilliar*
JCB 1349H Molecular Assemblies: Structure/ Function/Properties/*C. M. Yip*
JEB 1365H Ultrasound: Theory and Applications in Biology and Medicine/*R. S.C. Cobbold*
JEB 1375H Practical Optimization/*B. L. Bardakjian*
JEB 1433H Medical Imaging/*M. L. G. Joy*
JEB 1444H Neural Engineering/*B. L. Bardakjian*
JEB 1447H Electroacoustics: Theory and Medical Applications/*H. Kunov*
JEB 1451H Cellular Bioelectricity/*B. L. Bardakjian*
JPB 1022H Human Physiology as Related to Biomedical Engineering/*A. M. Dolan, Coordinator*
JPB 1055H Bioengineering for Life Scientists/ *H. Kunov*
JTC 1331H Biomaterials Science/*M. V. Sefton*
MMS 1026H Analytical Electron Microscopy/ *D. D. Perovic*
PSL 1031H Mathematical Theory of Turnover and Transport in Physiological Systems/*K. H. Norwich*
PSL 1431H Mathematics for Physiology/*K. H. Norwich*
PSL 1432H Theoretical Physiology/*K. H. Norwich*
REH 1100H Theory and Research in Rehabilitation/*M. Verrier*
REH 1540H Rehabilitation Technology/*D. T. Reid, G. Fernie*

# Biomedical Engineering (Collaborative Program)

**Program Committee**

Y.-L Cheng, SB, SM, PhD/Chemical Engineering & Applied Chemistry
U. De Boni, BSc, MSc, PhD/Physiology
A. M. Dolan, BSc, MSc/Biomaterials and Biomedical Engineering
P. N. Lewis, BSc, PhD/Biochemistry
K.-C. S. Pang, BScPhm, PhD/Pharmaceutical Sciences
D. T. Reid, BSc(OT), MEd, PhD/Rehabilitation Science
R. Reithmeier, BSc, PhD/Medical Science
D. S. R. Sarma, BSc, MSc, PhD/Laboratory Medicine and Pathobiology
J. P. Santerre, BSc, MScEng, PhD/Dentistry
M. V. Sefton, BASc, ScD/Biomaterials & Biomedical Engineering ***(Director)***
J. E. Sipe, BSc, MSc, PhD/Physics
J. S. Wallace, BSME, BA, MSE, PhD, PEng/Mechanical & Industrial Engineering
Z. Wang, BEng, MSc, PhD/Metallurgy & Materials Science
S. G. Zaky, BSc, MASc, PhD, PEng/Electrical & Computer Engineering

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The graduate units of Biomedical Engineering, Biochemistry, Chemical Engineering and Applied Chemistry, Dentistry, Electrical and Computer Engineering, Laboratory Medicine and Pathobiology, Materials Science and Engineering, Mechanical and Industrial Engineering, Medical Science, Pharmaceutical Sciences, Physics, Physiology, and Rehabilitation Science 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. 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. 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.

**Admission Requirements**

A student wishing to study in this program must be a graduate in dentistry, engineering, engineering science, medicine, or one of the physical or biological sciences and may be accepted as a graduate student in the Collaborative Program in Biomedical Engineering at the Institute of Biomaterials and Biomedical Engineering through one of the collaborating graduate departments (home department).

**Program Requirements**

Students register in the School of Graduate Studies through their home departments, and 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); while biological science students will be expected to take a physical sciences course, such as JPB 1055H (or an equivalent). Students will be expected to pursue a thesis topic relevant to Biomedical Engineering. Students will be expected to take BME 1450H *Bioengineering Science*.

Students registered in a graduate degree program involving research are required to participate in two seminar courses: one of BME 1010H or BME 1011H IBBME *Graduate Students Seminar* series and JDE 1000H *Ethics in Research*.

Each master's student in the Collaborative Program is required to have a supervisory committee approved by the Program Committee, and consisting of a supervisor from the Institute of Biomaterials and Biomedical Engineering (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 candidate registered in the Collaborative Pro-

gram in Biomedical Engineering must meet the requirements of the collaborating department and will normally comprise at least four half-courses and a thesis in the biomedical field.

Before Ph.D. candidates are accepted, the Program Committee must be satisfied of the student's ability to undertake advanced graduate studies. A qualifying examination may be required by the collaborating department. Direct transfer to a Ph.D. program is possible subject to the requirements of the collaborating department. The program of study for each candidate registered in the Collaborative Program in Biomedical Engineering must be approved by the collaborating department and the Program Committee and will normally comprise at least four half-courses and a thesis.

Each Ph.D. 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 both master's and 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 of Instruction**

Not all courses are offered every year. Students should contact the Institute office.

BME 1405H Clinical Engineering Instrumentation I/*A.M. Dolan, Staff*
BME 1413H Biological Communication Processes/*H. Kunov*
BME 1420H Chemistry of Biological Systems I/*P.Y. Wang*
BME 1421H Chemistry of Biological Systems II/*P.Y. Wang*
BME 1430H Mathematical Theory of Tracer Kinetics/*K.H. Norwich*
BME 1436H Clinical Engineering/*D.J. Doyle*
BME 1439H Clinical Engineering Instrumentation II/*A.M. Dolan, Staff*
BME 1442H Rehabilitation Engineering/ *M. Milner, S. Naumann, D. T. Reid*
BME 1445H Special Topics in Clinical Engineering/*A. M. Dolan, Coordinator*
BME 1446H Transduction of Physiological Events/A.*M. Dolan, U Ackerman*
BME 1448H Cardiovascular Fluid Mechanics/ *M. Ojha*
BME 1450H Bioengineering Science /*M. Ojha*
BME 1452H Signal Processing for Bioengineering/*S. Davies*
BME 4444Y Practice in Clinical Engineering/ *A. M. Dolan*
CHE 1107H Applied Mathematics/*Staff*
CHE 1138H Mathematical Methods in Chemical Engineering/*R. Luus*
CHE 1141H Advanced Chemical Reaction Engineering/*B.A. Saville, Coordinator*
CHE 1143H Transport Phenomena/*D. C. S. Kuhn*
CHE 1145H Advanced Chemical Analysis/ *S. T. Balke*
CHE 1304H Polymer Mechanics and Rheology/*C. E. Chaffey*
CHE 1310H Chemical Properties of Polymers/ *M. V. Sefton*
DEN 1070H Advances in Dental Materials Science/*J.P. Santerre, Staff*
DEN 1081H Bone Interfacing Implants/*J. E. D. Davies, M. Mittelman, R. M. Pilliar*
ECE 1228H Electromagnetic Theory/*K. G. Balmain*
ECE 1352H Analog Circuit Design I/*K. W. Martin*
ECE 1502H Information Theory/*F. R. Kschischang*
ECE 1511H Signal Processing/*A. N. Venetsanopoulos*
ECE 1512H Digital Image Processing and Applications/*A. N. Venetsanopoulos*
ECE 1514H Spectral Analysis and Array Processing/*D. Hatzinakos*
ECE 1521H Statistical Communication Theory/*S. Pasupathy*
ECE 1647H Nonlinear Control System Analysis/*S. A. Bortoff*
JCB 1349H Molecular Assemblies: Structure/ Function/Properties/*C. M. Yip*
JEB 1365H Ultrasound: Theory and Applications in Biology and Medicine/ *R. S. C. Cobbold*
JEB 1375H Practical Optimization/*B. L. Bardakjian*
JEB 1433H Medical Imaging/*M.L.G. Joy*
JEB 1444H Neural Engineering/*B. L. Bardakjian*
JEB 1447H Electroacoustics: Theory and Medical Applications/*H. Kunov*
JEB 1451H Cellular Bioelectricity/*B. L. Bardakjian*
JNP 1010H Analytical Neuroscience/*J. L. Winslow*

| | |
|---|---|
| JNP 1017H | Molecular and Biochemical Basis of Toxicology/*P. J. O'Brien, Staff* |
| JNP 1018H | Current Topics in Molecular and Biochemical Toxicology/*P. J. O'Brien, Staff* |
| JPB 1022H | Human Physiology as Related to Biomedical Engineering/ *A. M. Dolan, Coordinator* |
| JPB 1055H | Bioengineering for Life Scientists/ *H. Kunov* |
| JTC 1135H | Applied Surface Chemistry/*C. A. Mims, R. N. S. Sodhi* |
| JTC 1331H | Biomaterials Science/*M. V. Sefton* |
| MIE 1001H | Dynamics II/*J.W. Zu* |
| MIE 1062H | Robot Kinematics and Dynamics/ *A.A. Goldberg* |
| MIE 1101H | Thermodynamics II/*C.A. Ward* |
| MIE 1109H | Surface Phenomena/*A. W. Neumann* |
| MIE 1201H | Fluid Mechanics III/*I. G. Currie* |
| MIE 1405H | Human Control of Telerobotic Systems/*P. Milgram* |
| MIE 1729H | Machine Perception and Robot Sensors/*Staff* |
| MIE 1806H | Introduction to Digital Image Processing and Analysis/*Staff* |
| MMS 1026H | Analytical Electron Microscopy/ *D. D. Perovic* |
| PHM 1108H | Advanced Pharmacokinetics II/ *K. S. Pang, J. J. Thiessen, L. Endrenyi* |
| PHM 1109H | Recent Developments in Dosage Form Design/*X. Y. Wu* |
| PHM 1110H | Chemical Basis of Drug Metabolism/*P. Utrecht, Staff* |
| PHM 1117H | DNA-Drug Interactions/*R. B. MacGregor* |
| PSL 1031H | Mathematical Theory of Turnover and Transport in Physiological Systems/*K. H. Norwich* |
| PSL 1431H | Mathematics for Physiology/*K. H. Norwich* |
| PSL 1432H | Theoretical Physiology/*K. H. Norwich* |
| REH 1100H | Theory and Research in Rehabilitation/*M. Verrier* |
| REH 1540H | Rehabilitation Technology/*D. T. Reid, G. Fernie* |

# Biomolecular Structure (Collaborative Program)

**Program Committee**

J. D. Forman-Kay, BSc, PhD/Biochemistry
L. E. Kay, BSc, PhD, Canada Research Chair/Molecular & Medical Genetics/Biochemistry/Chemistry
J. M. Rini, BSc, PhD/Molecular & Medical Genetics/Biochemistry ***(Coordinator)***
D. R. Rose, BA, PhD/Medical Biophysics
G. A. Woolley, BSc, PhD/Chemistry

**Program Participants**

C. Arrowsmith, BSc, PhD/Medical Biophysics
A. Chakrabartty, BSc, MSc, PhD/Medical Biophysics
H. S. Chan, BSc, MA, PhD, Canada Research Chair/Biochemistry/Molecular & Medical Genetics
A. R. Davidson, BSc, PhD/Molecular & Medical Genetics/Biochemistry
C. M. Deber, BSc, PhD/Biochemistry
A. Edwards, BSc, PhD/Medical Biophysics/Molecular & Medical Genetics
J. D. Forman-Kay, BSc, PhD/Biochemistry
L. Frappier, BSc, PhD/Molecular & Medical Genetics
C. W. V. Hogue, BSc, PhD/Biochemistry
P. L. Howell, BSc, PhD/Biochemistry
M. Ikura, BSc, PhD/Medical Biophysics
L. E. Kay, BSc, PhD, Canada Research Chair/Molecular & Medical Genetics/Biochemistry/Chemistry
C. A. Lingwood, BSc, PhD/Laboratory Medicine & Pathobiology/Biochemistry
R. H. Morris, BSc, PhD/Chemistry
F. P. Ottensmeyer, BASc, MA, PhD/Medical Biophysics
E. F. Pai, DrRerNat/Biochemistry/Medical Biophysics/Molecular and Medical Genetics
G. G. Privé, BSc, PhD/Medical Biophysics
J. M. Rini, BSc, PhD/Molecular & Medical Genetics/Biochemistry
D. R. Rose, BA, PhD/Medical Biophysics
B. Sarkar/BPharm, MPharm, PhD/Biochemistry
F. Sicheri, BSc, PhD/Molecular & Medical Genetics
G. A. Woolley, BSc, PhD/Chemistry
C. M. Yip, BASc, PhD, PEng, Canada Research Chair/Chemical Engineering & Applied Chemistry/Biomaterials and Biomedical Engineering/Biochemistry

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The graduate program in Biomolecular Structure is a collaborative program involving the Departments of Biochemistry, Chemistry, Medical Biophysics, and Molecular and Medical Genetics. The program is open to Ph.D. students wishing to train under the supervision of one of the participating investigators. The program will appeal to students with a wide variety of backgrounds.

**Admission Requirements**

Applicants must first be admitted to one of the collaborating graduate units before applying to the collaborative program.

**Program Requirements**

Students in the program will be required to take JBB 2026H *Protein Structure, Folding and Design* and an advanced half-course in NMR, protein crystallography, imaging, or molecular modelling (e.g., JBB 2025H or CHM 1456H). Students who have not taken the equivalent of JBB 1425H *Biophysical Methods* will be required to take this course in addition to the other program requirements. Moreover, students will be required to participate in the student seminar series.

Generally, students enrolled in the program will be expected to fulfill the course requirements of both the program and the home department. However, it is anticipated that in most cases course work required by the program will serve, in part, to fulfill departmental requirements.

**Courses of Instruction**

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 |

# Biotechnology BTC

**Program Coordinators**
P. A. Horgen, BA, MS, PhD/Botany
***(Director)***
U. Krull, BSc, MSc, PhD, AstraZeneca Professor of Biotechnology/Chemistry

**Faculty**
G. Espie, PhD
H. P. Gunz, BSc, DPhil, PhD
P. A. Horgen, BA, MS, PhD
U. Krull, BSc, MSc, PhD, AstraZeneca Professor of Biotechnology
A. B. Lange, BSc, PhD
R. S. Prosser, BSc, MSc, PhD
B. Saville, MSc, PhD
M. Sokolowski, PhD, Canada Research Chair
A. Wensley, BA, PGCE, MA, MBA, PhD
J. T. Westwood, BSc, MSc, PhD

Additional faculty are selected from the Departments of Botany, Chemistry, Zoology, the Rotman School of Management, related Departments, as well as experts from industry and government.

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**Introduction**
The Master of Biotechnology (M.Biotech.) program is an interdisciplinary course-based professional degree involving collaboration between the Departments of Botany, Chemistry, Zoology, and the Rotman School of Management.

Students in the M.Biotech. program come from wide and varied backgrounds with the common goal of pursuing a career in the biotechnology or the pharmaceutical industries. The program is designed to meet the evolving needs of students and this global industry. Faculty is drawn from the Departments of Botany, Chemistry, and Zoology, and from the University of Toronto Rotman School of 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.

**Admission Requirements**
**1** A four year bachelor's degree or its equivalent in any area of biological sciences, chemistry, or related field.
**2** Acceptable GMAT or GRE scores and/or marks of A- or better in the last two years of study.
**3** Applicants will be asked to participate in and be interviewed during "biotechnology week" and, if unable to attend, will be required to submit additional information as requested by the Admissions Committee.

The Committee, comprising representatives from the three participating departments, makes admission decisions.

**Program Requirements**
The program is a full-time, course-based masters degree which is ***launched during the month of May each year***.
Students are required to complete 8 full graduate courses over a 24-month period:
- 5 to 6 science credits (includes credits for Seminar and Placement)
- 2 business credits
- up to 1 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 of Instruction**

***Required***
A general description of each required course is posted on the Web site, www.erin.utoronto.ca/mbiotech.

| | |
|---|---|
| BTC 1600H | Seminar in Biosciences/Biotechnology |
| BTC 1601H | Seminar in Biosciences/Biotechnology |
| BTC 1701H | Genetics and Molecular Biology Laboratory |
| BTC 1702H | Protein Chemistry/Biotechnology Laboratory |
| BTC 1801H | Biological Controls and Production of Natural Products |
| BTC 1802H | Biotechnology in Agriculture |
| BTC 1803H | Biotechnology in Medicine |
| BTC 1900Y | Placement Project in Biosciences/Biotechnology |
| BTC 1901Y | Placement Project in Biosciences/Biotechnology |
| BTC 2000H | Organizational Skills |

BTC 2001H Science, Technology, Organizations and Society
BTC 2002Y Management of Innovation

***Elective Courses***
BTC 1902Y Placement Project in Biosciences/Biotechnology
Other graduate courses approved by the Program Director

# Book History and Print Culture (Collaborative Program)

**Program Committee**
P. L. Fleming, BA, BLS, MLS, MA, PhD, FRSC/ Information Studies ***(Director)***
G. T. Fenwick, BA, BEd, MA, PhD/English
M. E. Korey, AB, MS/Massey College
B. S. Merrilees, MA, D de L'U/French

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**Nature of the Collaborative Program**
*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 departments of English, French Language and Literature, the Faculty of Information Studies, the Institute for the History and Philosophy of Science and Technology, the Centre for Medieval Studies, and the Centre for Comparative Literature, 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."

**Application Procedures**
Candidates for the program must have been accepted into a master's or doctoral program in their home unit. They may then apply to the Collaborative Program by writing to the Director giving information about their backgrounds and relevant interests and outlining a proposed program of study—preferably by April 1 for September admission, though late applications will also be considered. (An academic transcript should be included in the application; a photocopy will do.) Advice is available through the program brochure and from the Director and the Program Committee. An interview will normally form part of the admissions procedure for doctoral candidates.

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**

***Master's Program***
All candidates must fulfill 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 the master's level, the program should include at least two full-course equivalents 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.

***Doctoral Program***
All candidates must fulfill the degree requirements of the unit in which they are enrolled. Their program of study must also be approved by the BHPC Program Committee. If they 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 two doctoral courses BKS 2000H and BKS 2001H. 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 flex-time basis only by FIS students registered for the FIS flex-time Ph.D.

**Core 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/.

# Botany BOT

## Graduate Faculty

### Full Members

M. G. AbouHaidar, BSc, PhD, Dip d E Sup, CAP
A. Agrawal, BA, MA, PhD
J. B. Anderson, BA, PhD
S. C. H. Barrett, BSc, PhD, Canada Research Chair
T. Berleth, PhD
T. J. Blake, BScF, STB, MF, PhD, DipFor
E. Blumwald, BSc, MSc, PhD
R. K. Cameron, BA, PhD
T. J. Carleton, BSc, MSc, PhD
D. Christendat, BSc, PhD
J. R. Coleman, BSc, PhD
***(Chair)***
R. A. Collins, BSc, PhD, Canada Research Chair
S. Cutler, BSc, MSc, PhD, Canada Research Chair
W. R. Cummins, BSc, PhD
N. G. Dengler, BA, MS, PhD
***(Coordinator of Graduate Studies)***
R. E. Dengler, BS, PhD
T. A. Dickinson, BSc, MSc, PhD
F. DiCosmo, BSc, PhD
M. S. V. Douglas, BSc, MSc, PhD
J. E. Eckenwalder, BA, PhD
E. A. Edwards, BEng, MEng, PhD, PEng
G. S. Espie, PhD
R. R. Fulthorpe, BSc, MSc, PhD
D. R. Goring, BSc, MSc, PhD
D. S. Guttman, BS, PhD
C. A. Hasenkampf, PhD
M. C. Heath, BSc, PhD
V. J. Higgins, BSc, MSc, PhD
P. A. Horgen, BA, MS, PhD
L. M. Kohn, BS, PhD
P. Kotanen, PhD
H. J. Kronzucker, BSc, PhD
D. W. Malloch, BA, MA, PhD
J. H. McAndrews, BSc, MSc, PhD
P. McCourt, PhD, NSERC Performance Plants Chair in Plant Genetics
J.-M. Moncalvo, BSc, MSc, PhD
N. Provart, BSc, MSc, PhD
C. D. Riggs, PhD
R. F. Sage, BA, MS, PhD
T. L. Sage, BA, MS, PhD
B. Saville, MSc, PhD
J. S. Thaler, BA, PhD
S. Thomas, BA, PhD
J. D. Thomson, AB, MS, PhD
V. R. Timmer, BScF, MScF, PhD
G. C. Vanlerberghe, BSc, MSc, PhD

### Members Emeriti

P. W. Ball, BSc, PhD
J. Dainty, BA, MA, DSc, University Professor Emeritus
J. M. Ferrier, BSc, MSc, PhD
J. A. Hellebust, BA, MA, PhD
M. Hubbes, DipIngAgr, DrAgr
R. L. Jefferies, BSc, PhD
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J. Svoboda, BSc, PhD
J. P. Williams, BSc, PhD, DIC

### Associate Members

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Graduate training is offered in the following subjects:
Developmental Biology and Genetics
Evolutionary Biology and Systematics
Plant and Microbial Ecology
Plant-Microbe Interactions, Mycology and Virology
Plant Molecular Biology, Physiology and Biochemistry

Candidates are accepted under the general regulations.

## Degree of Master of Science

### *Admission Requirements*

A high academic standard is required for admission. Satisfactory performance will normally be demonstrated by an average grade in the final year, equivalent to a University of Toronto B+, or better. In exceptional circumstances, where there is strong supporting supplementary evidence, students with a mid-B average may be admitted to the program.

***Program Requirements***
M.Sc. candidates must complete two half-courses during the program; one of these must be completed in the first year of the master's program. It is strongly suggested that one half-course be from the BOT 1700 series seminar courses. Original research and defence of a thesis are also required.

**Degree of Doctor of Philosophy**

***Admission Requirements***
Candidates for the Ph.D. degree are generally accepted by two routes, either by transferring from the M.Sc. program within 16-20 months of entering the graduate program or following completion of an M.Sc. degree. A student completing a B.Sc. with outstanding academic achievement and proven research accomplishments may be admitted directly to the Ph.D. program.

***Program Requirements***
For Ph.D. students there is a minimum formal course requirement of three half-courses for students who have completed a M.Sc., with the first half-course taken in the first year. It is strongly suggested that at least one of these be selected from the BOT 1700 series seminar courses. The supervisory committee will evaluate the course work of Ph.D. applicants to determine if additional courses are required. Students that transfer from a M.Sc. to a Ph.D. program may count any course work completed prior to the transfer toward their Ph.D. requirements. However, transfer students are still expected to take one BOT 1700 series course during their Ph.D. program. It is expected that many Ph.D. students will continue to participate in seminar courses after their minimum requirement is completed.

Within 16-20 months of first registration in the program, candidates present a research proposal to the Department. If the research proposal is deemed unsatisfactory by the examination committee, there is a single opportunity to present a revised proposal three months later. Ph.D. candidates make an oral presentation of their thesis for evaluation to the Department as a whole and to a departmental evaluation committee before proceeding to the School of Graduate Studies' Final Oral Examination.

**Collaborative Programs**

***Developmental Biology (Collaborative Program)***
The graduate departments of Biochemistry, Botany, Molecular and Medical Genetics, Physiology, and Zoology offer a collaborative Ph.D. program in Developmental Biology.

For full information on this collaborative program, see the Developmental Biology entry in this calendar.

***Environmental Studies (Collaborative Program)***
The graduate department of Botany, in conjunction with the Institute for Environmental Studies, offers a collaborative master's program in environmental studies.

For a full description of this program, see the Environmental Studies entry in this calendar.

***Toxicology (Collaborative Program)***
A M.Sc. or Ph.D. degree in Toxicology can be taken through this Department.

For more details on this collaborative program, consult the Environmental Studies Toxicology entry in this calendar.

**Courses of Instruction**
All courses are not given every year. Consult the Department each term regarding course offerings.

| | |
|---|---|
| BOT 1300H | Systematic Botany/*J. E. Eckenwalder* |
| BOT 1307H | Families of Vascular Plants/*T. A. Dickinson* |
| BOT 1310H | Comparative Plant Morphology/*T. L. Sage* |
| BOT 1322Y | Photosynthesis/*J. P. Williams* |
| BOT 1328H | Physiological Ecology/*R. F. Sage* |
| BOT 1341H | Plant Anatomy/*N. G. Dengler, T. L. Sage* |
| BOT 1351H | Plant Pathology/*V. J. Higgins* |
| BOT 1355Y | Introductory Virology/*M. G. AbouHaidar* |
| BOT 1403H | Systematics of the Higher Fungi/*D. W. Malloch* |
| BOT 1405H | Analysis of Multivariate Data from Biological Experiments/*T. A. Dickinson* |
| BOT 1421H | Plant Cell Metabolism/*F. DiCosmo, J. A. Hellebust* |
| JBE 1434H | Topics in Applied Ecology/*Staff* |
| JBF 1436H | Forest Landscape Ecology and Methods/*T. J. Carleton* |
| BOT 1452Y | Plant–Micro-organism Interactions/*M. C. Heath, V. J. Higgins, R. K. Cameron* |
| JZB 1459H | Population Genetics/*Staff* |
| BOT 1460H | Plant Molecular Genetics/*P. McCourt, T. Berleth* |
| JZB 1520Y | Evolutionary Biology/*Staff* |
| JZB 1521H | Molecular Evolution/*A. Baker, D. Irwin* |

BOT 1628H Molecular and Classical Cytogenetics/*C. A. Hasenkampf*
BOT 1629H Cellular and Molecular Aspects of Plant Development/*C. D. Riggs, T. Berleth, N. G. Dengler*

***Seminar Courses***

BOT 1700H Seminar on Recent Advances in Plant Sciences/*Staff*
BOT 1701H Seminar on Recent Advances in Plant Sciences/*Staff*
BOT 1702H Seminar on Recent Advances in Plant Sciences/*Staff*
BOT 1703H Seminar on Recent Advances in Plant Sciences/*Staff*
BOT 1704H Seminar on Recent Advances in Plant Sciences/*Staff*
BOT 1705H Seminar on Recent Advances in Plant Sciences/*Staff*

***Developmental Biology (Collaborative Program)***

JDB 1025Y Developmental Biology/*T. Berleth, Staff*
JDB 1026Y Student Seminars in Developmental Biology/*Staff*

# Cardiovascular Sciences (Collaborative Program)

**Program Committee**
S. L. Adamson, BSc, MSc, PhD/Physiology
D. Brooks, BSc(PT), MSc, PhD/Rehabilitation Science
M. L. Rand, BSc, PhD/Laboratory Medicine & Pathobiology
M. Ojha, BSc, MSc, PhD/Biomedical Engineering
S. G. Thomas, BSc, MSc, PhD/Rehabilitation Science
R. D. Weisel, BA, MD, FACS, FRCS(C)/Medical Science, Surgery
C. Wittnich, MSc, DVM/Medical Science, Surgery, Physiology ***(Director)***
G. A. Wright, BASc, MASc, PhD/Medical Biophysics
Student Representatives

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The graduate units of Biomedical Engineering, Exercise Sciences, Laboratory Medicine and Pathobiology, Medical Biophysics, Medical Science, Pharmacology, Physiology, Public Health Sciences, and Rehabilitation Science, together with the clinical departments of Anaesthesia, 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. Students in the program must be accepted by one of the participating graduate units and then 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.

**Program Requirements**
Candidates for the master's and doctoral degrees are accepted by the participating unit under its regulations; the length of the program may vary. For either degree, students must complete a research thesis as required by the graduate unit. It is understood that the thesis topic will be in the area of cardiovascular sciences. The Program Committee may require additional or alternative courses, depending on the background of each student. In addition, students in the Cardiovascular Sciences program must meet the requirements of their home graduate unit in terms of course work and thesis work. Students must be registered with a Cardiovascular Sciences Program supervisor and complete the program to qualify for specialization.

Before obtaining the doctoral degree, students must have course credits in any two of the following course selections JCV 3060H, JCV 3061H, JCV 3062H, JCV 3063H. For the master's degree, students must have a half-credit in an approved CVS course. Students must demonstrate excellence in cardiovascular related research.

**Courses of Instruction**
Cardiovascular sciences courses offered by the participating units are listed below. Not all courses are offered each year.

| | |
|---|---|
| BME 1448H | Cardiovascular Fluid Mechanics/ *M. Ojha* |
| EXS 5508H | Cardiovascular Disease and Exercise/*J. M. Goodman* |
| JCV 3060H | Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction/ *R. Tsushima, C. Wittnich* |
| JCV 3061H | Advanced Topics in Cardiovascular Sciences—Hormones/ *R. Tsushima, C. Wittnich* |
| JCV 3062H | Advanced Research in Cardiovascular Sciences—Heart Function/*C. Wittnich* |
| JCV 3063H | Advanced Research in Cardiovascular Sciences—Vascular/ *C. Wittnich* |
| JEB 1365H | Ultrasound: Theory and Applications in Biology and Medicine/ *R. S. C. Cobbold* |
| JTC 1331H | Biomaterials Science/*M. V. Sefton* |
| LMP 1015H | Vascular Pathobiology/*B. L. Langille* |
| LMP 1504H | Biochemistry, Molecular Biology of Cardiovascular Diseases/*C. C.Liew* |
| PSL 1060H | Developmental Cardiovascular Physiology/*C. Wittnich* |
| PSL 1462H | Molecular Aspects of Cardiac Function/*P. Backx* |

# Chemical Engineering and Applied Chemistry CHE

## Graduate Faculty

### Full Members

D. G. Allen, BASc, MASc, PhD, PEng
S. T. Balke, BEng, PhD, PEng
T. F. Bidleman, BSc, PhD
D. G. B. Boocock, BSc, PhD, FCIC
C. E. Chaffey, BSc, PhD, PEng, CChem
M. E. Charles, BSc, MSc, PhD, FCIC, FCAE, PEng, Michael E. Charles Chair in Chemical Engineering
Y.-L. Cheng, SB, SM, PhD
W. R. Cluett, BSc, PhD, FCIC, PEng
P. A. Cooper, BScF, MSc, BEd, PhD
D. E. Cormack, BASc, MASc, PhD, FCIC, PEng
T. W. Coyle, BSc, BA, ScD
J. E. Davies, BSc, PhD, BDS, DSc
M. L. Diamond, MSc, PhD
L. L. Diosady, BASc, MASc, PhD, FCIC, PEng
E. A. Edwards, BEng, MEng, PhD, PEng
G. J. Evans, BASc, MASc, PhD, PEng
F. R. Foulkes, BASc, MASc, PhD, PEng
R. R. Fulthorpe, BSc, MSc, PhD
D. F. James, BSc, MA, MS, PhD, PEng
C. Q. Jia, BEng, MEng, PhD, PEng
M. Kawaji, BASc, MSc, PhD, PEng
D. W. Kirk, BASc, MASc, PhD, PEng
M. T. Kortschot, BASc, MASc, PhD, PEng
D. C. S. Kuhn, BSc, MSc, PhD, PEng
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C. A. Mims, BS, PhD
V. G. Papangelakis, DipEng, MEng, PhD
J. C. Paradi, BASc, MASc, PhD, FCAE, PEng, SSHRC/NSERC Industrial Research Chair in the Management of Technological Change
D. W. Reeve, BSc, MASc, PhD, DTechHC, FCIC, FTAPPI, PEng, Frank Dottori Chair in Pulp and Paper Engineering
M. Sain, BSc, BASc, MTech, PhD, PEng
J. P. Santerre, BSc, MScEng, PhD
B. A. Saville, BSc, PhD
M. V. Sefton, BASc, ScD, FCIC
M. S. Shoichet, SB, MS, PhD, Canada Research Chair
H. Tran, BSc. PhD, FTappi
K. A. Woodhouse, BEng, PhD, PEng
C. M. Yip, BASc, PhD, PEng, Canada Research Chair

### Members Emeriti

J. J. Balatinecz, BSF, MF, PhD
D. Barham, BScEng, DIC, ARSM, PhD
M. J. Phillips, BASc, MA, PhD, FCIC, PEng
M. R. Piggott, BSc, ARCS, PhD, DIC, PEng
J. W. Smith, BASc, MASc, PhD, DIC, FCIC, CIH, PEng
J. M. Toguri, BASc, MASc, PhD, FRSC
O. Trass, BSE, ScD, FCIC, PEng

### Associate Members

W. L. Bialkowski, BEng, MASc
J. H. Carey, BSc, MSc, PhD
C.-L. Chu, BSc, MSc, PhD
M.A. Cotter, BASc, PhD
R. R. Farnood, BASc, MASc, PhD
S. Gong, BS, MS, MASc, PhD
H. D. Goodfellow, BASc, MASc, PhD, PEng
T. M. Grace, BS, PhD
J. Graydon, BASc, MEng, MD
A. K. Jones, BASc, MASc, PhD
S. S. Krishnan, BSc, MA, PhD, PEng
S. N. Liss, BSc, MSc, PhD
M. B. Lyne, BSc, PhD, MBA
A. B. McKague, BSc, PhD
O. Meresz, MSc, PhD
S. S. H. Rizvi, BS, MS, MEng, PhD
W. R. Smith, BASc, MASc, MSc, PhD, PEng
R. N. S. Sodhi, BSc, MSc, PhD
M. J. Thomson, BEng, MSc, PhD
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Candidates for degrees are accepted under the general regulations. Qualified candidates may engage in research in the following areas:
Applied Organic Chemistry
Biochemical Engineering
Biomaterials
Biomedical Engineering
Biotechnology
Ceramics Engineering
Chemical Analysis
Chemical Reactor Design
Combustion Engineering
Composite Materials
Electrochemical Engineering
Energy Engineering
Environmental Engineering
Fluid Mechanics
Food Engineering
Heat, Mass, and Momentum Transport
Hydrometallurgy

Polymer Science and Engineering
Process Control
Process Modelling and Optimal Control
Pulp and Paper
Radiochemistry
Separation Processes
Thermodynamics, Kinetics, and Catalysis

A more complete description of graduate research programs and the enrolment procedure may be found in the graduate folder which is available from the Coordinator of Graduate Studies, Department of Chemical Engineering and Applied Chemistry.

**Collaborative Programs**
The Department of Chemical Engineering and Applied Chemistry participates in the following collaborative programs:
Biomedical Engineering
Environmental Engineering
Integrated Manufacturing
Wood Products Engineering
For details, consult the separate entries in this calendar.

**Degree of Master of Engineering**
The M.Eng. program differs from other graduate programs (M.A.Sc. and Ph.D.) available in the Department in that it is oriented to learning through project work and prescribed courses (normally seven) rather than through research. It is primarily intended for engineers and physical scientists in full-time professional practice who wish to pursue advanced studies at the master's level and on a part-time basis, without committing themselves to full-time residence for experimental research. Students may choose courses of interest to them, and may also register in the Environmental Engineering or Integrated Manufacturing collaborative program. Further information on registration may be obtained from the Coordinator of Graduate Studies.

**Degree of Master of Applied Science**
The M.A.Sc. program requires a minimum full-time residence of one fall and one winter session. In addition to the thesis, each candidate is required to complete at least three graduate courses, one of which must normally be selected from Category A (see below), and at least one of which must be selected in an area outside the student's field of research specialization. Furthermore, normally 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 (see Courses of Instruction). Each candidate should discuss possible research projects with several members of the Department before selecting a thesis topic.

**Degree of Doctor of Philosophy**
Individuals who have already completed M.A.Sc. requirements and who have demonstrated an exceptional degree of all-round scientific and intellectual ability as evident from theoretical or experimental research, academic standing, initiative, and publication record may apply for continued graduate research leading to the Ph.D. degree. The program is designed to enable such students to complete all degree requirements within four years. Direct admission to the Ph.D. program after the bachelor's degree may be considered in exceptional cases. In addition to the thesis, each Ph.D. candidate is required to complete at least four additional courses if the M.A.Sc. requirements have been completed or at least six courses if admitted directly after the bachelor's degree. Courses must be selected from the calendar and approved by the candidate's supervisor. At least one of these courses must be taken in a minor area of study, and it is recommended that one of these courses should be selected from Category A courses. Normally, Ph.D. 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 (see Courses of Instruction). Candidates normally remain in continuous residence (full time, on campus) until the Departmental recommendation for the Final Oral Examination is made, unless special permission to do otherwise has been granted by the Departmental Graduate Studies Committee.

**Program Transfer**
Very strong M.A.Sc. candidates may apply to transfer to the Ph.D. program after completing one year of the M.A.Sc. program. Regulations governing such transfers are available in the Chemical Engineering Graduate Studies Office. A student who is permitted such a transfer and who does not hold a master's degree must complete a total of six half-courses in the graduate program. Transfer students who already hold a master's degree must complete a total of four half-courses.

**Courses of Instruction**
A schedule is available from the Coordinator of Graduate Studies at the beginning of each term listing the time and room location for each course.

Students in the M.A.Sc. and Ph.D. programs are required to take course CHE 3000Y *Seminars in Chemical Engineering and Applied Chemistry* in each year 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, which involves research, are required to participate in the non-credit seminar course JDE 1000H *Ethics in Research* during their first or second term of registration.

More details concerning these courses are provided by the Coordinator of Graduate Studies once admission to a graduate program has been confirmed.

Not all courses are given every year. Consult the Department each term as to course offerings.

***Category A***

CHE 1107H Applied Mathematics
CHE 1138H Mathematical Methods in Chemical Engineering
CHE 1140H Topics in Process Identification and Control
CHE 1141H Advanced Chemical Reaction Engineering
CHE 1143H Transport Phenomena
CHE 1144H Separation Processes
CHE 1145H Advanced Chemical Analysis
JTC 1135H Applied Surface Chemistry
CHE 1310H Chemical Properties of Polymers
JCI 1503H Advanced Topics in Computing and Information Systems
CHE 2504H Industrial Pollution Prevention
MIE 1807H Principles of Measurement

***Category B***

CHE 1118H Industrial Catalysis
CHE 1142H Advanced Topics in Aqueous Process Engineering
CHE 1213H Corrosion
CHE 1304H Polymer Processing and Rheology
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 1541H Two-Phase Flow and Heat Transfer
JCC 1313H Environmental Microbiology
JCI 1321H Wood Engineering
JNC 2503H Environmental Pathways

***500 level courses***

CHE 507H Process Modelling and Simulation
CHE 553H Electrochemistry
CHE 564H Pulp and Paper Processes

***Seminar Courses***

CHE 1211H Pulp and Paper Seminars (CR/NCR)
CHE 2011H Graduate Student Seminars (CR/NCR)
CHE 3000Y Seminars in Chemical Engineering and Applied Chemistry (CR/NCR)

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.

(CR/NCR) Credit/No Credit

# Chemistry CHM

## Graduate Faculty

### Full Members

J. P. D. Abbatt, BSc, AM, PhD
R. A. Batey, BA, PhD
P. W. Brumer, BSc, PhD, FRSC, University Professor, Roel Buck Chair in Chemical Physics
J. Chin, BSc, PhD
A. Dhirani, BSc, MSc, PhD
D. J. Donaldson, BSc, PhD
D. H. Farrar, BSc, MSc, PhD
S. J. Fraser, BA, PhD
M. C. Goh, BSc, PhD
G. S. Henderson, BSc, MSc, PhD
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L. E. Kay, BSc, PhD, Canada Research Chair
R. H. Kluger, AB, AM, PhD, FRSC
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E. Kumacheva, BS, MSc, PhD
M. Lautens, BSc, PhD, AstraZeneca Professor of Organic Synthesis
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S. A. Mabury, BS, PhD
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A. M. MacMillan, BSc, PhD
I. Manners, BSc, PhD
R. A. McClelland, BSc, PhD, FRSC
M. Menzinger, DipI-Ing, MSc, PhD
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C. A. Mims, BS, PhD
R. H. Morris, BSc, PhD
M. M. Moskovits, BSc, PhD, FRSC
G. A. Ozin, BSc, DPhil, FRSC, University Professor, Canada Research Chair
J. C. Polanyi, BSc, MSc, PhD, DSc, FRS, FRSC, University Professor
J. Powell, BSc, PhD
R. S. Prosser, BSc, MSc, PhD
J. K. Reed, BA, MSc, PhD
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G. Scholes, BSc, PhD
B. Sherwood Lollar, BA, PhD
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A. K. Yudin, BS, PhD
D. B. Zamble, BSc, PhD

### Members Emeriti

M. Bersohn, BS, MA, PhD
A. G. Brook, BA, PhD, FRSC, University Professor Emeritus
G. Burns, BSc, PhD
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J. E. Guillet, BA, PhD, ScD, FRSC
A. G. Harrison, BSc, MSc, PhD
J. B. Jones, BSc, PhD, DPhil, FRSC, University Professor
A. J. Kresge, BA, PhD, FRSC
S. McLean, BSc, PhD
A. J. Poë, BA, BSc, MA, PhD, DIC, ScD
W. F. Reynolds, BSc, PhD
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J. P. Valleau, BA, MA, PhD
A. Walker, BSc, PhD
S. C. Wallace, BSc, PhD

### Associate Members

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D. C. G. Muir, BSc, MSc, PhD
M. Shapiro, BSc, MSc, PhD

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Modern facilities are available for research leading to the M.Sc. and Ph.D. 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.

An average of at least B+ is required for admission to the graduate programs. An exceptional student with an appropriate B.Sc. degree may be admitted directly to the Ph.D. program. Alternatively, transfer to the Ph.D. program may be considered after a one-year M.Sc. residency period.

### Environmental Studies (Collaborative Program)

The Department of Chemistry, in conjunction with the Institute for Environmental Studies, offers a collaborative master's program in

environmental studies. Program requirements include the submission of a research thesis in environmental chemistry, one graduate half-course in chemistry and two half-courses offered by the Institute for Environmental Studies, and participation in the seminar program, including presentation of a seminar, at the Institute for Environmental Studies. For a further description of this program, see the Environmental Studies entry in this calendar.

**Degree of Master of Science**
A candidate's program will normally include the submission of a thesis, the successful completion of one graduate full-course equivalent, and participation in a seminar program.

**Degree of Doctor of Philosophy**
The main requirement for this degree is the execution of an original investigation that is presented in a thesis. A candidate for this degree selects one of the following as a major field: Analytical Chemistry, Environmental Chemistry, Inorganic Chemistry, Organic Chemistry, Experimental Physical Chemistry, Theoretical Physical Chemistry, or 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 two full-course equivalents from approved graduate courses offered in the School of Graduate Studies. Up to one full-course equivalent taken for credit in the master's program may be used to partially fulfil the Ph.D. requirements. Each program requires successful completion of an oral examination in the area of the major field, as well as participation in a seminar program.

Specific requirements for some of the major fields are as follows:
**1** Analytical Chemistry. One half-course in analytical chemistry in each of the areas of spectroscopy, separation science, and electrochemistry, plus one other half-course to support the research program. Candidates must also pass seven cumulative exams and participate in the Analytical Chemistry seminar program.
**2** Environmental Chemistry. At least four half-courses to include CHM 1401H, at least one of IES 1410H or CHM1415H, and at least two Chemistry courses in other fields to be chosen in consultation with the supervisor/supervisory committee and confirmed by the field representative. One of these may be an approved course offered in a cognate department. Presentation of two seminars (normally in second and fourth years of study) and participation in the Environmental Chemistry seminar and colloquia program. A written research proposal, defended orally, on a topic other than the primary research topic delivered prior to the end of the second year of graduate study. Successful completion of an oral examination in the area of Environmental Chemistry, normally completed following course work and before the end of the second year of graduate study.
**3** Inorganic Chemistry. Four half-courses plus the presentation of three seminars in the Inorganic Chemistry seminar program, two on topics not directly related to the area of research.
**4** Experimental Physical Chemistry. Four half-courses consisting of a combination of core and other courses. The number of core courses is determined by the research director and the student, while observing the principle that breadth of background preparation should be the major objective in course selection. Attendance and participation in the Physical Chemistry seminar program are mandatory.
**5** Theoretical Physical Chemistry. Six half-course equivalents, including two core half-courses. Specifics are to be determined by the research director and the student. Attendance and participation in the Physical Chemistry seminar program are mandatory.
**6** Organic Chemistry. Four half-courses, including at least two core half-courses from the synthetic organic, physical organic, and bio-organic areas, and one supplementary half-course from an area of organic chemistry. Candidates must also pass seven cumulative exams and participate in the Organic Chemistry seminar program.
**7** Polymer and Materials Chemistry. Four half-courses, to include at least two of the three core courses. A list of other courses considered appropriate to the Polymer and Materials Chemistry research area is available from the department. Presentation of at least two seminars (the first will be an independent research proposal, the second a presentation on research) and participation in the Polymer and Materials Chemistry seminar program. Successful performance in an oral examination in the area of Polymer and Materials Chemistry following the completion of course work.
**8** Interdisciplinary Ph.D. Program. Four half-courses, including one core half-course from the above subdisciplines, and participation in one of the subdiscipline seminar programs. Acceptance into this program requires a research topic of a truly interdisciplinary nature; a written request must be submitted to the graduate coordinator.

Depending upon the area of research, candidates may also be required to show an adequate ability to translate scientific text in one or two of the following languages: French, German, and Russian.

A candidate whose major subject is in another department may consult the Department of Chemistry regarding the selection of a minor in Chemistry.

**Course Schedule**
A schedule listing the times, room locations, and course descriptions is available from the Coordinator of Graduate Studies at the beginning of each term.

**Research Courses**
All M.Sc. or Ph.D. degree candidates engaged in research must register in the appropriate 2000 sequential series of research courses in one of the major fields. Candidates register in these courses each year, in sequence of the last digit.

**Courses of Instruction**
Not all courses are offered every year. Please consult the Department each term as to course availability.

***Organic Chemistry***

CHM 1002H Physical Organic Chemistry I (AS 442H)*
CHM 1003H Physical Organic Chemistry II (AS 443H)*
CHM 1004H Synthetic Organic Chemistry (AS 440H)*§
CHM 1005H Applications of Spectroscopy in Organic Structure Determination (AS 441H)*
CHM 1006H Bioorganic Chemistry (AS 447H)*
CHM 1007H Topics in Neurochemistry (CHM 461H)#
CHM 1040H Modern Organic Synthesis§
CHM 1045H Modern Physical Organic Chemistry§
CHM 1050Y Molecular Quantum Mechanics
CHM 1051H Organic Photochemistry
CHM 1054H Topics in Bioorganic Chemistry§
CHM 1055H Heteroatoms in Organic Molecules
CHM 1057H Topics in Synthetic Organic Chemistry
CHM 1060H Advanced Topics in Synthetic Organic Chemistry
CHM 1061H Theoretical Organic Chemistry
CHM 1068H Topics in Biological and Medicinal Chemistry§
CHM 1069H Molecular Mechanics and Modelling in Organic Chemistry
CHM 1070H Kinetics and Mechanism in Biological Chemistry
CHM 1073H Organic Chemistry of the Metalloids
CHM 1078H Topics in Physical Organic Chemistry
CHM 1080H Asymmetric Catalysis
CHM 1090Y Organic Chemistry Seminar (CR/NCR)
CHM 2041Y Research in Organic Chemistry
JRX 1124H Structured-Based Drug Design

***Analytical and Inorganic Chemistry***

CHM 1102H Developing Techniques in Analytical Chemistry§ (AS 414H)*
CHM 1103H Advanced Topics in Analytical Chemistry§ (CHM 414H)#
CHM 1104H Separation Science§ (AS 416H)*
CHM 1150H Advances in Electroanalytical Chemistry and Electrochemical Sensors
CHM 1152H Chemical Sensors
CHM 1157H Applications of Chemometrics
CHM 1190Y Analytical Chemistry Seminar (CR/NCR)
CHM 1204H Organometallic Chemistry (AS 432H)*
CHM 1205H Inorganic Reaction Mechanisms (AS 433H)*
CHM 1206H Solid State Chemistry: Structure-Property Relations (AS 434H)*
CHM 1207H Coordination Chemistry (AS 435H)*
CHM 1208H Special Topics in Inorganic Chemistry (D33H)^
CHM 1209H Structural Methods in Inorganic Chemistry§ (AS 436H)
CHM 1253H Organometallic Chemistry of the Transition Elements
CHM 1258H Reactions of Coordinated Ligands
CHM 1260H Advanced Inorganic Reaction Mechanism§
CHM 1261H Topics in Inorganic Chemistry I
CHM 1262H Topics in Inorganic Chemistry II
CHM 1263H Bioinorganic Chemistry (AS 437H)
CHM 1264H Reactive Intermediates, Metal Clusters, and Catalysis
CHM 1265H The Role of Organometallic Chemistry and Homogeneous Catalysis in Industrial Processes

§Core course
(CR/NCR) Credit/No Credit
*Listing in the calendar of the Faculty of Arts and Science
^Scarborough College listing
#Erindale College listing

CHM 1266H Physical Methods in Inorganic Chemistry I: Electron Paramagnetic Resonance Spectroscopy
CHM 1267H Physical Methods in Inorganic Chemistry II: Nuclear, Vibrational, and Electronic Spectroscopy
CHM 1268H Physical Methods in Inorganic Chemistry III: X-Ray Crystallography
CHM 1269H New Directions in Solid-State Chemistry: Self Assembly of Inorganic Materials
CHM 1270H Case Histories in Inorganic Chemistry
CHM 1290Y Inorganic Chemistry Seminar (CR/NCR)
CHM 2011Y Research in Analytical Chemistry
CHM 2031Y Research in Inorganic Chemistry

***Polymer and Materials Chemistry***

CHM 1301H Organic and Inorganic Polymer Synthesis§ (formerly CHM 1475H Chemistry of Macromolecules II)
CHM 1302H Physical Chemistry of Polymers§ (formerly CHM 1474H Chemistry of Macromolecules I)
CHM 1310H Polymer Photochemistry and Photophysics(formerly CHM 1486H Polymer Photochemistry and Photophysics)(AS 426)
CHM 1390H Polymer and Materials Chemistry Seminar
CHM 2306Y Research in Polymer and Materials Chemistry
JCH 1317H Data Interpretation in Quantitative Polymer Analysis
JMY 1303H Polymers as Solid Materials

***Physical and Theoretical Chemistry***

CHM 1401H Transport and Fate of Chemical Species in the Environment§
CHM 1415H Atmospheric 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 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 1465H Quantum Theory of Scattering
CHM 1469H The Molecular Dynamics of Chemical Reactions, Part I
CHM 1472H Selected Topics in Physical Chemistry of Surfaces
CHM 1476H Modern Topics in Statistical Mechanics
CHM 1477H The Molecular Dynamics of Chemical Reactions II
CHM 1478H Quantum Mechanics for Physical Chemists§
CHM 1479H Thermodynamics§
CHM 1480H Basic Statistical Mechanics§ (AS 427H)
CHM 1481H Reaction Kinetics and Dynamics§ (AS 421H)
CHM 1482H Laser Spectroscopy and Photophysics
CHM 1483H Group Theory and Quantum Mechanics
CHM 1484H Semiclassical Mechanics
CHM 1485H Molecular Dynamics and Chemical Dynamics in Liquids
CHM 1487H Modern Topics in Colloid Chemistry
CHM 1488H Modern Research Developments in Physical Chemistry
CHM 1489H Topics in Nonlinear Chemical Dynamics
CHM 1490Y Physical Chemistry Seminar (CR/NCR)
CHM 1550H Topics in Environmental Chemistry
CHM 2021Y Research in Physical Chemistry

***Environmental Chemistry***

CHM 1590Y Environmental Chemistry Seminar
CHM 2531Y Research in Environmental Chemistry

All graduate courses for degree credit must be approved by the Department. Subject to departmental permission, degree candidates 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.

§Core course
(CR/NCR)Credit/No Credit

# Civil Engineering CIV

**Full Members**

B. J. Adams, BSc, MS, PhD, PEng
***(Chair)***
R. C. Andrews, BASc, MSc, PhD, PEng
D. M. Bagley, BS, MS, PhD, PEng
W. F. Bawden, BASc, PhD, PEng
P. C. Birkemoe, BSCE, MSCE, PhD, PEng
J. F. Bonacci, BS, MS, PhD, PEng
P. H. Byer, SB, SM, PhD, PEng
C. Christopoulos, BASc, MASc
M. P. Collins, BE, PhD, FACI, FCSCE, PEng, University Professor, Bahen/Tanenbaum Professor
A. M. Crawford, BE, MASc, PhD
J. H. Curran, BASc, MEng, PhD, PEng, Robert M. Smith Chair in Geotechnical Mine Design and Analysis
D. P. Gauvreau, BSc, MSE, PhD
M. W. F. Grabinsky, BASc, MASc, PhD, PEng
F. L. Hall, BA, MSc, PhD
R. D. Hooton, BASc, MASc, PhD, FACI, FASCE, PEng
B. W. Karney, BASc, MEng, PhD, PEng
S. N. Liss, BSc, MSc, PhD
B. Y. McCabe, BASc, PhD
E. J. Miller, BASc, MASc, PhD, Bahen/Tanenbaum Professor
B. Mohanty, BSc, MTech, MA, PhD , PEng, NSERC-Industrial Research Chair in Rock Dynamics and Fragmentation
J. A. Packer, BE, MSc, PhD, FICE, PEng
K. D. Pressnail, BASc, MASc, PhD, LLB
S. A. Sheikh, BSc, MASc, PhD, PEng
***(Coordinator of Graduate Studies)***
B. E. Sleep, BASc, MASc, PhD
F. J. Vecchio, BASc, MEng, PhD, PEng
R. P. Young, BSc, MSE, Post-grad Cert Educ, PhD, Chair in Engineering Seismology and Rock Mechanics

**Members Emeriti**

R. A. Collins, BASc, MS, PhD, FCSCE, PEng
J. Ganczarczyk, MSc, DSc, FRSH, PEng
E. Hauer, BSc, MSc, PhD, PEng
G. W. Heinke, BASc, MASc, PhD, FCSCE, PEng
J. G. Henry, BSc, MSE, PhD, PEng
V. F. Hurdle, BS, MEng, PhD, PEng
T. C. Kenney, BEng, DIC, MSc, PhD, PEng
R. H. Mills, BSc, FICE, FIStructE
K. A. Selby, BASc, MBA, PhD, PEng
R. M. Soberman, BSc, SM, PhD, PEng
G. N. Steuart, BSc, MSc, PhD
J. Timusk, BASc, MASc, PhD, PEng
S. M. Uzumeri, BASc, MASc, FACI
G. T. Will, BASc, MASc
P. M. Wright, BE, MSc, PHd, FEIC, FCSCE

**Associate Members**

B. Abdulhai, BSc, MSc, PhD
B. Bakht, BSc, MSc, DSc, PEng
E. C. Bentz, BASc, PhD
T. E. El-Diraby, BSc, MSc, PhD
I. A. Kaysi, BEng, MS, PhD
C. A. Kennedy, BEng, DiplEcon, DIC, MASc, PhD, PEng
K. A. Klein, BASc, MASc, PhD
M. Lachemi, Dipl, MASc, PhD, PEng
J. Li, BASc, MASc, PhD, PEng
H. L. MacLean, BEng, MBA, MSc, PhD, PEng
L. A. McCoomb, BASc, MSc, PhD, PEng
B. N. Persaud, BS, MEng, PhD, PEng
A. S. Shalaby, BSc, MASc, PhD, PEng
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For graduate admissions:
grad_admissions@civ.utoronto.ca
*Web:* www.civ.utoronto.ca

Qualified candidates are accepted for advanced studies in structural engineering, construction management and engineering, environmental engineering, geomechanics and materials engineering, transportation engineering, and hydraulic engineering with the latter being a cooperative program with the Department of Mechanical and Industrial Engineering.
***Note:*** *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.*

***Environmental Engineering (Collaborative Program)***

The graduate departments of Chemical Engineering and Applied Chemistry, Civil Engineering, Mechanical and Industrial Engineering, and Materials Science and Engineering participate in the collaborative graduate program in Environmental Engineering at the University of Toronto. Details of this program are available in the Environmental Engineering entry in this calendar.

For additional information, contact the Department of Civil Engineering for a copy of the Graduate Brochure.

**Degrees of Master of Engineering and Master of Applied Science**

Candidates for these degrees are accepted under the general regulations. It should be noted that for those candidates who do not possess an undergraduate degree in civil engineering, more than the usual time and number of courses may be required. 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. An M.Eng. program will normally consist of ten courses for the course work only program. Up to two courses may be replaced by a research/design project. An M.A.Sc. program will normally consist of a minimum of five courses and a thesis.

There is no formal residence requirement for the M.Eng. degree for students in the Department of Civil Engineering, and, therefore, the program may be completed through part-time studies.

**Degree of Doctor of Philosophy**

***Full-Time***

Candidates for this degree are accepted under the general regulations and under the regulations for the degree of Doctor of Philosophy, except for the following Departmental regulations which supercede the general regulations.

**1** Admission directly from a bachelor's degree is not normally permitted.

**2** Three letters of reference are normally required from applicants.

**3** If a candidate transfers from a master's degree program to a Ph.D. program, courses taken during the master's program may be applied to the Ph.D. program.

**4** The Ph.D. academic program is defined in terms of a major and 2 minor fields of study, normally consisting of 6 to 11 half-courses in total, depending upon the candidate's background preparation. Candidates transferring from a master's program or with a master's degree from another discipline typically take 8 to 11 half-courses. Candidates with a master's degree in Civil Engineering typically take 6 to 8 half-courses. It is normally expected that at least one of the minor fields will be taken outside of the Department. This academic program must be approved by the Department's Examination and Degree Committee during the candidate's first session.

**5** The academic program must be defended by the candidate in a comprehensive examination, preferably within one year after first enrolment in the Ph.D. program. This examination consists of a four to five-day, take-home written examination, followed approximately a week later by an oral examination. The examination is administered by a Comprehensive Examination Committee created and supervised by the Department's Examination and Degree Committee.

**6** Candidates normally must spend at least two academic years of their program on campus on a full-time basis.

Candidates seeking admission to the Ph.D. program must be able to satisfy the Department that they have the ability to undertake advanced research.

***Flexible-Time***

It is possible for qualified students to undertake their Ph.D. program on a flexible-time basis. This program is designed for professionals, working in a field closely related to the proposed area of research, who are unable to undertake full-time studies due to professional and/or financial obligations. Admission criteria and program requirements for the flexible-time program are the same as for the full-time program except:

**1** flexibility exists in how the requirement to spend at least one-year full-time on campus is fulfilled;

**2** the normal time taken to prepare for the comprehensive examination is extended from one to two years;

**3** maximum overall time to completion of the degree is extended from six to eight years.

During the first four years of their program, flexible-time students must register full-time; thereafter they may register part-time.

**Courses of Instruction**

Not all courses are given every year. Some courses may require a prerequisite. Please consult the Department.

***Structural Engineering***

| | |
|---|---|
| CIV 513H | Collaborative Engineering and Architectural Design Studio/*J. F. Bonacci; Staff from Architecture, Landscape, and Design* |
| CIV 514H | Concrete Construction/*R. D. Hooton* |
| CIV 518H | Behaviour and Design of Steel Structures/*P. C. Birkemoe* |
| CIV 519H | Structural Analysis II/*E. C. Bentz* |
| CIV 1161H | Prestressed Concrete Structures/ *M. P. Collins* |
| CIV 1163H | Mechanics of Reinforced Concrete/*F. J. Vecchio* |
| CIV 1164H | Bridge Engineering/*B. Bakht* |
| CIV 1166H | Plastic Analysis and Design of Steel Structures/*P. C. Birkemoe* |
| CIV 1167H | Structural Dynamics/ *C. Christopoulos* |

CIV 1169H Advanced Topics in Building Design/*S. A. Sheikh*
CIV 1171H Structural Dynamics and Earthquake Engineering/ *C. Christopoulos*
CIV 1174H Finite Element Methods in Structural Mechanics/*J. H. Curran*
CIV 1175H Design of Tubular Steel Structures/*J. A. Packer*
CIV 1199H Special Studies in Civil Engineering/*Staff*
CIV 1250H Instrumentation Techniques in Concrete Technology/*R. D. Hooton*
CIV 1252H Repair and Maintenance of Concrete Structures/*Staff*
CIV 1361H Reinforced and Prestressed Concrete Structures/*M. P. Collins*
CIV 1504H Applied Probability and Statistics for Civil Engineering/*C. A. Kennedy*
CIV 1539H Evaluation of Civil Engineering Systems/*Staff*

***Building Engineering***

CIV 514H Concrete Construction/*R. D. Hooton*
CIV 575H Building Science/*K. D. Pressnail*
CIV 1174H Finite Element Methods in Structural Mechanics/*J. H. Curran*
CIV 1250H Instrumentation Techniques in Concrete Technology/*R. D. Hooton*
CIV 1252H Repair and Maintenance of Concrete Structures/*Staff*
CIV 1277H ConstructionEstimating and Finance/*B. Y. McCabe*
CIV 1278H Pre-Project Planning and Constructability Analysis/*T. E. El-Diraby*
CIV 1279H ConstructionContract Documents/*Staff*
CIV 1280H Building Envelope Design/*K. D. Pressnail*
CIV 1281H Management of Building Projects/ *Coordinator: B. Y. McCabe*
CIV 1282H Case Studies in Building Science/ *Staff*
CIV 1299H Special Studies in Civil Engineering/*Staff*
CIV 1504H Applied Probability and Statistics for Civil Engineering/*C. A. Kennedy*
CIV 1539H Evaluation of Civil Engineering Systems/*Staff*

***Environmental Engineering***

CIV 540H Treatment Processes/*R. C. Andrews*
CIV 543H Solid Waste Management/*Staff*
CIV 549H Groundwater Flow and Contamination/*C. A. Kennedy*
CIV 550H Water Resources Engineering/ *B. J. Adams*
CIV 1303H Water Resources Systems Modelling/*B. W. Karney*
CIV 1305H Water Resources Systems Analysis/*B. J. Adams*
CIV 1308H Physical and Chemical Treatment Processes/*R. C. Andrews*
CIV 1309H Biological Treatment Processes/ *D. M. Bagley*
CIV 1313H Environmental Microbiology/*Staff*
CIV 1319H Chemistry and Analysis of Water and Wastes/*B. E. Sleep*
CIV 1335H Advanced Hydrogeology/*B. E. Sleep*
CIV 1337H Simulation in Civil Engineering/ *Staff*
CIV 1399H Special Studies in Civil Engineering/*Staff*
CIV 1504H Applied Probability and Statistics for Civil Engineering/*C. A. Kennedy*
CIV 1539H Evaluation of Civil Engineering Systems/*Staff*

For courses offered by the Environmental Engineering Collaborative Program, please contact the graduate unit. See separate entry in this calendar for contact information.

***Geotechnical Engineering***

CIV 523H Geotechnical Design/*M. W. F. Grabinsky*
CIV 524H Rock Dynamcis/*B. Mohanty*
CIV 529H Rock Engineering/*J. H. Curran*
CIV 1174H Finite Element Methods in Structural Mechanics/*J. H. Curran*
CIV 1404H Numerical Methods in Geomechanics/*Staff*
CIV 1420H Soil Properties and Behaviour/ *K. A. Klein*
CIV 1446H Slopes and Earthworks/ *M. W. F. Grabinsky*
CIV 1499H Special Studies in Civil Engineering/*Staff*
CIV 1504H Applied Probability and Statistics for Civil Engineering/*C. A. Kennedy*
CIV 1539H Evaluation of Civil Engineering Systems/*Staff*

***Transportation Engineering and Planning***

| | |
|---|---|
| CIV 530H | Traffic Engineering/*I. A. Kaysi* |
| CIV 531H | Transport III—Planning/*E. J. Miller* |
| CIV 532H | Fundamentals of ITS and Traffic Management/*B. Abdulhai* |
| CIV 1337H | Simulation in Civil Engineering/*Staff* |
| CIV 1502H | Road Safety/*Staff* |
| CIV 1503H | Transportation System Performance/*Staff* |
| CIV 1504H | Applied Probability and Statistics for Civil Engineering/*C. A. Kennedy* |
| CIV 1505H | Transportation Research Seminar/*Staff* |
| CIV 1506H | Stochastic Aspects of Congestion/*Staff* |
| CIV 1507H | Public Transport/*A. S. Shalaby* |
| CIV 1508H | Airport Planning and Engineering/*L. A. McCoomb* |
| CIV 1535H | Transportation and Development/*E. J. Miller* |
| CIV 1538H | Transportation Demand Analysis/*E. J. Miller* |
| CIV 1539H | Evaluation of Civil Engineering Systems/*Staff* |
| CIV 1540H | Urban Transportation Networks/*B. Abdulhai* |
| CIV 1599H | Special Studies in Civil Engineering/*Staff* |

# Classics CLA

## Graduate Faculty

### Full Members

T. D. Barnes, BA, MA, DPhil, FRSC
C. F. Bruun, BA, MA, PhD
J. S. Burgess, BA, MA, PhD
E. G. Csapo, BA, MA, PhD
M. J. Dewar, BA, MA, DPhil
B. C. Inwood, BA, MA, PhD, FRSC, Canada Research Chair
***(Chair)***
A. R. Jones, BA, PhD, FRSC
***(Coordinator of Graduate Studies)***
A. M. Keith, BA, PhD
J. C. Magee, BA, MA, PhD
H. J. Mason, BA, AM, PhD
C. J. McDonough, BA, MA, PhD
E. I. Robbins, BA, MA, PhD
C. I. R. Rubincam, BA, PhD
J. S. Traill, BA, MA, PhD
M. B. Wallace, BA, MA, PhD

### Members Emeriti

R. L. Beck, BA, MA, PhD
J. N. Grant, BA, MA, PhD
M. E. G. Irwin, BA, MA, PhD
J. M. Rist, BA, MA, FRSC

### Associate Members

J. C. Edmondson, BA, MA, PhD

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*E-mail:* k.gavrilovic@utoronto.ca
*Web:* www.chass.utoronto.ca/classics/

The Department of Classics provides advanced training in a wide range of fields: Ancient Greek Language and Literature, Latin Language and Literature, Ancient History, Ancient Philosophy (in collaboration with the Department of Philosophy), and Ancient Science. Archaeological and art-historical studies are pursued through the Ancient Studies Collaborative Program (see the separate calendar entry), which also provides for interdisciplinary work in the art, culture, history, and literatures of ancient Mediterranean and/or Near Eastern cultures.

Candidates are accepted under the general regulations, provided that they also satisfy the department's requirements. Detailed application procedures and information about graduate funding are available from the department.

## Degree Programs

### *Master of Arts in Classics*

Entry to the M.A. requires the successful completion of an undergraduate program in Classics (B+ average in final year), with the equivalent of at least three and preferably four full years of training in each of Latin and Greek. Students who are otherwise qualified but who have less training in the languages should consult with the department about further preparation.

Candidates may be admitted to a one- or two-year program leading to the M.A., depending on their level of preparation. The M.A. degree program requires 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 M.A. examination cycle, and the submission of an acceptable special essay (see Program Descriptions below). Satisfactory completion of the M.A. examination cycle requires at least a B- grade on each component; an acceptable special essay requires a grade of at least B.

### *Master of Arts in Greek or Latin*

Candidates for the M.A. in Greek or Latin must satisfy all the normal requirements for the M.A. in Classics, but are only required to pass one of the M.A. examinations in the minor language. Candidates should be aware that the M.A. in Greek or Latin alone is not normally adequate preparation for doctoral study in Classics.

### *Master of Arts in Classics (Ancient Studies Collaborative Program)*

Candidates enrolled in Ancient Studies through Classics must take the equivalent of one full course outside the department. They are exempt from one of the four M.A. reading list examinations in Classics and the corresponding preparatory courses, and they normally substitute one of their outside courses for the M.A. special essay.

### *Doctor of Philosophy in Classics*

**1** Standard admission to the Ph.D. program requires the successful completion of either a strong undergraduate program in Classics (with at least an A- average in the final year) or a strong M.A. 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.

**2** Candidates may also be admitted to the Ph.D. with advanced standing if they have completed the revised M.A. 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 Ph.D.

Candidates admitted under standard conditions as described in **1** above must, satisfactorily complete required courses (GRK 1000H, GRK 2000H, GRK 2100H and LAT 1000H, LAT 2000H, LAT 2100H), pass all components of the M.A. examination cycle with grades of at least B+, and earn a grade of at least A- on the special essay (see Program Descriptions below). For doctoral students this examination cycle and the special essay are referred to as the qualifying examinations and qualifying essay. Doctoral candidates who complete the qualifying examinations and essay at a lower standard which nevertheless satisfies the M.A. requirement will be granted the M.A. but may be required to withdraw from the doctoral program or to retake examinations.

Candidates admitted with advanced standing as described in **2** above are exempt from the qualifying examinations and qualifying essay.

## Program Descriptions

### *Two-year Master of Arts*

In the first year of study candidates take 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. GRK 1000H and LAT 1000H are graded credit/no credit. Students who do not complete these courses with appropriate standing may be required to withdraw from the M.A. program or to retake the courses.

In the second year of study, candidates are required to take the following four half-courses: Classics of Greek Literature (GRK 2000H, GRK 2100H) and Classics of Latin Literature (LAT 2000H, LAT 2100H). These survey courses (graded credit/no credit) cover the most important authors of Greek and Roman antiquity.

Each student is assigned to a faculty advisor for CLA 2000H, the M.A. 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*

Candidates are required to take the following four half-courses: Classics of Greek Literature (GRK 2000H, GRK 2100H) and Classics of Latin Literature (LAT 2000H, LAT 2100H). These survey courses (graded credit/no credit) cover the most important authors of Greek and Roman antiquity. Students may also be required to take GRK 1000H and/or LAT 1000H to help them prepare for the M.A. examinations.

Each student is assigned to a faculty advisor for CLA 2000H, the M.A. 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.

The M.A. in Classics is granted on completion of the M.A. examinations with at least B- in each component. These are:

- Sight translation examination in Greek (not required for the M.A. in Latin).
- Sight translation examination in Latin (not required for the M.A. in Greek).
- Reading list examination in Greek Prose.
- Reading list examination in Greek Verse.
- Reading list examination in Latin Prose.
- Reading list examination in Latin Verse.

### *Doctor of Philosophy*

In the first year, candidates take the required courses to prepare for the qualifying examinations and write their qualifying essay under the guidance of a faculty advisor. The program of study is normally identical to that of the one-year M.A. outlined above. To continue in the program candidates must earn at least a B+ on each component of the qualifying examinations and at least an A- on their qualifying essay. Students admitted with advanced standing as described in **2** above are exempt from these requirements.

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. Students will be notified of such additional requirements at the time of their offers of admission or early in the first session.

Doctoral candidates must 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, candidates are expected to have passed one modern language examination. By the end of year two candidates should have completed the other modern language examination.

In the second year (first year for candidates admitted with advanced standing) candidates take CLA 3000H *Research Techniques in Classics* and at least three of the required total of five research seminars. The supervisory committee is normally established in year two. By the end of the third year (second year for candidates admitted with advanced standing) candidates 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 candidates admitted with advanced standing). The dissertation should be completed by the end of the fifth year (fourth year for candidates admitted with advanced standing).

*Minor field (CLA 3500H°)*
The minor field is established at the end of second year (first year for candidates 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 candidates 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.

***Doctor of Philosophy in Classics (Ancient Studies)***
Requirements for the Ph.D. in Ancient Studies are described under the separate listing for that program. Candidates enrolled in Ancient Studies through Classics normally take two research seminars (one full-course equivalent) outside the department; the first minor field normally develops out of a course taken outside the department.

**Courses of Instruction**

| | |
|---|---|
| GRK 1000H | Advanced Studies in Greek Language (CR/NCR) |
| GRK 2000H | Classics of Greek Verse I (CR/NCR) |
| GRK 2100H | Classics of Greek Prose I (CR/NCR) |
| GRK 2500Y | Greek Verse Exam |
| GRK 2501Y | Greek Prose Exam |
| GRK 2505Y | Greek Sight Exam |
| LAT 1000H | Advanced Studies in Latin Language (CR/NCR) |
| LAT 2000H | Classics of Latin Verse I (CR/NCR) |
| LAT 2100H | Classics of Latin Prose I (CR/NCR) |
| LAT 2500Y | Latin Verse Exam |
| LAT 2501Y | Latin Prose Exam |
| LAT 2505Y | Latin Sight Exam |
| CLA 2000H | M.A. Special Essay |
| CLA 3000H | Research Techniques in Classics |
| 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 5005H | Herodotus |
| CLA 5006H | Thucydides |
| 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 |
| CLA 5013H | Studies in Ancient Science |
| CLA 5014H | The Ancient Novel |
| CLA 5015H | Latin Poetry of the Empire |
| CLA 5016H | Topics in Greek 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 |

(CR/NCR) Credit/No Credit
°Courses which may continue over a program. The course is graded when completed.

| | |
|---|---|
| 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 |

# Comparative, International and Development Education (Collaborative Program)

## Graduate Faculty

### Core Members

J. P. Farrell, BSc, PhD/Curriculum, Teaching & Learning ***(Centre Head, Program Coordinator)***
F. M. Connelly, BEd, BSc, MSc, PhD/Curriculum, Teaching & Learning
G. J. S. Dei, BA, MA, PhD/Sociology & Equity Studies in Education
R. Hayhoe, BA, MA, PhD/Theory & Policy Studies in Education
D. W. Livingstone, BA, PhD/Sociology & Equity Studies in Education
D. Misgeld, DPhil/Theory & Policy Studies in Education
S. Mojab, MEd, PhD/Adult Education, Community Development & Counselling Psychology
C. P. Olson, BA, MA/Sociology & Equity Studies in Education
J. Pan, BA, MEd, PhD/Theory & Policy Studies in Education
D. Schugurensky, BEd, MEd, PhD/Adult Education, Community Development & Counselling Psychology
D. N. Wilson, BA, MSc, PhD/Curriculum, Teaching & Learning

*Address:*
J. P. Farrell
Collaborative Program Coordinator
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*E-mail:* jfarrell@oise.utoronto.ca

This Collaborative Program will interest Canadian students who wish to work and live in other cultures or want to better understand the educational and social systems from which many learners come in Canada's multicultural society. It will also interest international students who wish to relate their studies at OISE/UT directly to their own societies and learning systems.

The interests of students and faculty in this program range from the development of teaching and learning programs and policies dealing with specific educational, social, and economic problems to studies of the role of organized learning in the development of large social systems. Faculty experience and interests permit students to study comparatively both formal and non-formal educational programs, for children and adults, as they occur in both developing and developed societies, from a variety of different theoretical perspectives.

The Program is available to students enrolling in the M.Ed., M.A., Ed.D., or Ph.D. programs in each of the following four departments:

**1** Adult Education, Community Development and Counselling Psychology (Adult Education and Community Development program)
**2** Curriculum, Teaching and Learning
**3** Sociology and Equity Studies in Education
**4** Theory and Policy Studies in Education

The Program allows students enrolled in any of the four participating departments, while meeting all the requirements for a degree from that department, to also receive a certification on their transcript as "Specialist in Comparative, International and Development Education".

The Comparative, International and Development Education Centre (CIDEC) provides academic coordination. The Centre has a small lounge and provides a gathering place where students and faculty can connect and interact through the seminar series, print and electronic newsletters, and the Resource Centre.

### Admission Requirements

Applicants apply to the appropriate degree program in the collaborating department corresponding most closely to their general background and interests. In addition to meeting the minimum departmental requirements, applicants are normally expected to have at least one to two years experience working/living in cultural contexts other than urban southern Ontario (or similar settings), or to have extensive experience working in multicultural educational settings (for children or adults). Prospective applicants are strongly advised to contact the Collaborative Program Coordinator before submitting their application, to discuss the relevance of their professional/life experience to their potential admissibility to this Program, and its suitability to their own learning goals.

### Program Requirements

Individual student programs must meet the requirements of both their home department (outlined in the graduate unit entry in this calendar) and the Collaborative Program. Normally, a careful selection of courses will satisfy this requirement without any additional course load. Collaborative Program requirements include course selections from the list of Comparative, International and Development Education basic and specialization courses (distributed to the collaborating departments), regular participation

in and contribution to the CIDEC Seminar Series, and (depending upon the degree program and department) preparation of a thesis, research paper, or comprehensive paper related to Comparative, International and Development Education, as certified by a participating faculty member from the home department. Students will be advised principally by faculty from their home department who also participate in the Collaborative Program.

**Courses of Instruction**

***Core Course***

CTL 6000H Introduction to Comparative, International, and Development Education (formerly CTLI500H)/ *J. P. Farrell, Staff*

***Master's Level Basic Courses***

CTL 6002H Education and Social Development (formerly CTL1502H)/*J. P. Farrell or Staff*

CTL 6003H Comparative Education: The Development of Third World Educational Systems (formerly CTL1503H)/*D. N. Wilson or Staff*

TPS 1825H Comparative Higher Education: Part I/*R. E. S. Hayhoe*

***Doctoral Level Basic Courses***

AEC 1114H Comparative and International Perspectives in Adult Education/ *D. Schuqurensky, S. Mojab*

CTL 6801H Methodologies for Comparing Educational Systems (formerly CTL1901H)/*Staff*

SES 3950H Comparative Societies: Economic Change, the State, and Schooling/*D. W. Livingstone*

***Specialization Courses***

For Specialization Courses and detailed collaborative program requirements, please contact the CIDEC office. Depending on faculty resources in the collaborating departments as well as student demand, some courses are not offered every year. Contact the CIDEC office regarding specific course availability.

# Comparative Literature COL

## Graduate Faculty

### Full Members

V. Ambros, BA, MA, PhD/Slavic
R. Baraheni, BA, MA, PhD/Comparative Literature
J. Bochow, BA, MA, PhD/Comparative Literature
E. Cazdyn, BA, MA, PhD/East Asian Studies
J. E. Chamberlin, BA, PhD, FRSC/English
J. A. Fleming, BA, MA, PhD/French
***(Coordinator of Graduate Studies)***
B. Havercroft, BA, MA, PhD/French
L. A. M. Hutcheon, BA, MA, PhD, University Professor/English
A. A. Iannucci, BA, AM, PhD/Medieval Studies
P. Kleber, BA, MA, PhD/Comparative Literature
T. Lahusen, BA, MA, PhD/History
R. J. Le Huenen, L ès L, DES, DenPh, ChPA/Comparative Literature
***(Director)***
S. J. Rupp, BA, MA, MPhil, PhD/Spanish
B. C. Stock, AB, PhD/Comparative Literature

### Members Emeriti

N. Davis, BA, MA, PhD, FAmAcAs, CFBrAc/History
L. Dolezel, BA, MA, PhD/Slavic
B. T. Fitch, BA, D de L'U, FRSC, University Professor/French
E. Kushner, MA, PhD, FRSC/Comparative Literature
O. J. Miller, MA, D de L'U/French
P. W. Nesselroth, MA, PhD, ChPA/French
M. J. Valdés, BA, MA, PhD, FRSC, Miembro Correspondiente de la Academia Mexicana/Comparative Literature

### Associate Members

T. H. Adamowski, BA, MA, PhD/English
S. C. Akbari, BA, MA, MPhil, PhD/English
C. J. Barnes, BA, MA, PhD/Slavic
G. Bisztray, PhD/Slavic
R. M. Brown, BA, MA, PhD/English
J. F. Burke, BA, MA, PhD/Spanish
R. Capozzi, BA, MA, PhD/Italian Studies
F. I. Case, MA, D de L'U/French
C. L. Clark, BMus, MA, PhD/Music
J. Fiebach, BA, PhD/Comparative Literature
P. Fitting, MA, PhD/French
L. W. Forguson, BA, MA, PhD/Philosophy
M. Gieri, DLett, PhD/Italian Studies
M. Hewitt, BA, MA, PhD/Religion
F. Hoff, MA, PhD/East Asian Studies
B. C. Inwood, BA, MA, PhD, FRSC, Canada Research Chair/Classics
H. J. Jackson, BA, MA, PhD/English
A. M. Keith, BA, PhD/Classics
J. R. Kippen, BA, PhD/Music
J. Kristeva, BA, MA, PhD/Comparative Literature
W. Krysinski, BA, MA, PhD/Comparative Literature
E. M. M. Legge, BA, MA, PhD/History of Art
G. M. Leonard, BA, MA, PhD/English
F. J. Marker, AB, DFA/English
H. J. Mason, BA, AM, PhD/Classics
J. L. Matus, BA, MA, PhD/English
J. O'Neill/Comparative Literature
J. M. Paterson, MA, PhD, FRSC/French
J. W. O. Patrick, BA, MA, PhD/English
A. Percival, BA, MA, PhD/Spanish
P. J. G. O. Perron, BA, D de L'U, ChPA, FRSC/French
J. Phelan, Northrup Frye Professor
D. Pietropaolo, BSc, MA, PhD/Italian Studies
O. Pugliese, BA, MA, PhD/Italian Studies
E. I. Robbins, BA, MA, PhD/Classics
T. M. Robinson, BA, BLitt, MA/Philosophy
C. Saas, BA, MA, PhD/German
W. D. Shaw, BA, AM, PhD, FRSC/English
R. Sternberg, BA, MA, PhD/Spanish
D. W. J. Vincent, BA, MA, PhD/German
M. Xie, PhD/Comparative Literature
J. Zilcosky, PhD/German

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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 M.A. and Ph.D. degree programs to candidates 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 candidate's undergraduate and graduate records and upon the evidence of the references and statement. The deadline for receiving applications to both the M.A. and Ph.D 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.

## Degree of Master of Arts

### *Admission Requirements*

Candidates for this degree are accepted under the general regulations of the School of Graduate Studies provided that they also satisfy the Centre for Comparative Literature's requirements stated below. In all cases, their programs must be approved by the Centre.

Admission to the M.A. program requires a 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. Applicants to the M.A. program must demonstrate 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. Candidates 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 candidates must register as full-time students.

### *Program Requirements*

**1** Students admitted to the one-year program must complete at least 4 full-course equivalents including at least 2.5 full-course equivalents in COL courses, one of which must be COL 1000H.

**2** Students admitted to the two-year program must complete at least 6 full-course equivalents including at least 3.5 full-course equivalents in COL courses, one of which must be COL 1000H.

**3** Students may pursue independent research for credit equivalent to one half-course at the M.A. level, under the direction of an advisor approved by the Centre.

**4** A plan of study is defined by each M.A. 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.

**5** Candidates must obtain an average of at least B+ in their course work to be recommended for the master's degree.

**6** M.A. candidates who intend to pursue doctoral studies are strongly advised to make appropriate plans for the acquisition of graduate level competence in a second language other than English. An adequate reading knowledge of this second language must be demonstrated before the M.A. is received.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Candidates for this degree are accepted under the general regulations of the School of Graduate Studies provided that they also satisfy the Centre for Comparative Literature's requirements stated below. In all cases, their programs must be approved by the Centre.

Admission to the Ph.D. program requires a 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. Applicants must demonstrate an ability to do advanced research in two languages other than English.

### *Program Requirements*

Ideally, the Ph.D. program in Comparative Literature should be completed in four years. Candidates are required to take from five to eight full-course equivalents, depending on their individual academic backgrounds.

**1** A student with an M.A. in Comparative Literature, or its equivalent, will be required to take at least five full-course equivalents, three of which must be COL courses. A student who has an M.A in a humanities discipline involving literary studies, especially specific language and literature programs, may be required to take up to eight full-course equivalents, at least four of which must be COL courses. The actual number of courses required for the Ph.D. will be established at the time of admission through consultation with the Director/Coordinator of Graduate Studies.

**2** Time-Line : Ph.D. students, in close consultation with the Graduate Coordinator and faculty members, are responsible for defining the scope and approach of their plan of study. Stu-

dents submit a preliminary statement of purpose at the time of application to the Centre. 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 Ph.D. program. Students constitute a field examination/supervisory committee and submit a dissertation proposal no later than the end of the second year of Ph.D. study. The field examination is taken no later than the end of the first term of the third year.

**3** Language and Literature Requirements: Candidates for admission to the Ph.D. program, in addition to their work for the M.A., must demonstrate an ability to work at the graduate level in two languages 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.

**4** Students may pursue independent research for credit equivalent to one half-course at the Ph.D. level, under the direction of an advisor approved by the Centre.

**5** All Ph.D. students are required to enrol in COL 4000Y, a credit/non-credit course, in addition to the agreed upon number of full-course equivalents 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.

**6** When the field examination has been completed successfully, the candidate will prepare and defend a dissertation which must be an original and significant contribution to the existing body of knowledge.

**7** 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.

**8** Students' progress will be assessed at least once a year by the Centre's Graduate Academic Committee and/or their respective supervisory committees.

**Teaching Assistantships**

Although the Centre for Comparative Literature currently has no teaching assistantships (TAships) of its own, it will support qualified students' applications for TAships in the appropriate departments and colleges. Since TAships form part of the funding package, students must apply directly to departments in which they feel qualified to teach, and inform the Centre for Comparative Literature of all teaching assistantships for which they have applied.

**Courses of Instruction**

Courses listed below include the core program COL seminars as well as cross-listed courses from other departments, centres, and collaborative programs. Students should consult the Comparative Literature handbook as well as the handbooks of other departments for courses that may be taken for credit, as well as for course availability.

***Core Program***

| | |
|---|---|
| COL 1000H | Faculty Seminar: Theories of Literature and Criticism/*Staff* |
| COL 1255H | Aspects of Structuralism/ *R. Le Huenen* |
| COL 1300H | Topics in Comparative Literature: Fictional Worlds/*L. Dolezel* |
| COL 1600Y | Exile, the Third Zone of Literature/*R. Baraheni* |
| COL 1900H | Reading and Research for the M.A./*Staff* |
| COL 1910H | Reading and Research for the Ph.D./*Staff* |
| COL 2100H | Special Seminar: Issues in the Rhetorical Theory of Narrative: Character Narrators, Narrative Temporality, Audiences and Ethics/*J. Phelan* |
| COL 3375H | Interdisciplinary Approaches to an Interdisciplinary Art Form: Opera/*L. A. M. Hutcheon, C. L. Clark* |
| COL 3380H | Globalization and Culture/ *E. Cazdyn* |
| COL 4000Y | Practicum on Research and Bibliography in Comparative Literature (CR/NCR)/*Staff* |
| COL 5014H | A Hermeneutical Approach to Contemporary Texts/*B. T. Fitch* |

COL 5016H Dramatic Text and Theatrical Communication: Bertolt Brecht, Robert Wilson and Robert Lepage/*P. Kleber*
COL 5021H The Body in Medieval Literature/ *J. Ross*
COL 5023Y The History of Reading Between Late Antiquity and the End of the Sixteenth Century/*B. Stock*
COL 5024Y Thomas More: Renaissance Humanism and the History of Utopian Thought/*B. Stock*
COL 5025H Feminism and Postmodernism/ *B. Havercroft*
COL 5026H The Diaries of Literary Women: from Theories of Autobiography to Genetic Criticism/*J. LeBlanc*
COL 5027H Memory, Trauma, and History/ *T. Lahusen*
COL 5028Y Aesthetics, Media, Politics and Performances in the "Third Reich"/*J. Bochow*
JIC 5000H Narrativity and Intertextuality in Italian Fiction: "Boccaicio-Eco"/ *R. Capozzi*

***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

***Drama***
DRA 1010Y Theory of Drama/*S. B. Johnson*
DRA 4030Y Studies in Canadian Theatre and Drama/*R. Plant*

***East Asian Studies***
EAS 1456H Japan as Seen by Others: Reference, Apparatus, Operation/ *A. Sakaki*

***English***
ENG 6003H Literary History and Identity Politics/*L. A. M. Hutcheon*

***French Language and Literature***
FRE 1924H Balzac et le discours préfaciel/ *R. Le Huenen*
FRE 2035H Autour de l'intime en France: les écrits contemporains des femmes/*B. Havercroft*
FRE 2078H Altérité: formes et significations/ *J. Paterson*
FRE 2100H Du texte à l'image/*J. LeBlanc*

***Germanic Languages and Literatures***
GER 1660H Modernism and the Other/ *J. Zilcosky*

***History***
HIS 1281H Experiences of Real Socialism/ *T. Lahusen*

***Italian Studies***
ITA 1723H Trends in the Italian Novel 1900-1960/*R. Capozzi*

***Medieval Studies***
MST 2040Y Medieval Rhetoric and Poetics/ *J. Ross*
MST 3107H Classical Monsters in Early Medieval Contexts/*A. Orchard*

***Philosophy***
Please consult the Department's handbook for course listings.

***Slavic Languages and Literatures***
Please consult the Department's handbook for course listings.

***Spanish***
Please consult the Department's handbook for course listings.

# Computer Science CSC

## Graduate Faculty

### Full Members

T. S. Abdelrahman, BSc, MSc, PhD, PEng
R. Almgren, BS, MS, PhD
F. Bacchus, MSc, PhD
R. M. Baecker, BS, MSc, PhD
I. F. Blake, BASc, MASc, PhD, PEng
A. J. Bonner, BSc, MSc, PhD
A. B. Borodin, BA, PhD, FRSC
C. Boutilier, MSc, PhD
M. Chechik, MSc, PhD
M. H. Chignell, BSc, MSc, PhD
C. C. Christara, BSc, MSc, PhD
S. A. Cook, BS, AM, PhD, FRSC, FRS, University Professor
D. G. Corneil, BSc, MA, PhD
S. Dickinson, MSc, PhD
S. M. Easterbrook, BSc, PhD
W. H. Enright, BSc, MSc, PhD
F. E. Fich, BM, MMath, PhD
E. L. Fiume, BM, MSc, PhD
***(Chair)***
M. S. Fox, BSc, PhD, FAAAI, FCIAR, NSERC Industrial Research Chair in Enterprise Integration
G. S. Graham, BSc, MA, MSc, PhD
V. Hadzilacos, BSE, PhD
E. C. R. Hehner, BSc, MSc, PhD
G. Hinton, BA, PhD, FRSC
G. Hirst, BA, BSc, MSc, PhD
K. R. Jackson, BSc, MSc, PhD
***(Coordinator of Graduate Studies)***
A. D. Jepson, BSc, PhD
K. Kutulakos, MSc, PhD
H. J. Levesque, BSc, MSc, PhD
R. A. Mathon, MSc, PhD
E. Mendelsohn, BSc, MSc, PhD
A. Mendelzon, BS, MA, MSc, PhD
R. J. Miller, BS, PhD
M. Molloy, MSc, PhD
J. Mylopoulos, BSc, MSc, PhD
R. M. Neal, BSc, MSc, PhD
T. Pitassi, MSc, PhD
C. Rackoff, SB, SM, PhD
R. Reiter, BA, MSc, PhD, FRSC
K. C. Sevcik, BS, MS, PhD
S. Stevenson, MSc, PhD
J. Stewart, MSc, PhD
M. Stumm, DipMath, PhD
E. V. Swenson, MS, PhD
D. P. Terzopoulos, MEng, PhD
S. Toueg, PhD
J. K. Tsotsos, BASc, MSc, PhD
A. I. F. Urquhart, MA, PhD
M. van de Panne, BS, MSc, PhD
K. J. Vicente, BASc, MS, PhD
Z. G. Vranesic, BASc, MASc, PhD, PEng
D. B. Wortman, BE, MS, PhD
S. G. Zaky, BSc, MASc, PhD, PEng
R. Zemel, MSc, PhD
S. Zhou, BS, MS, PhD

### Members Emeriti

P. I. P. Boulton, BASc, MASc, PhD, PEng
C. C. Gotlieb, FRSC
R. C. Holt, BEP, PhD
J. N. P. Hume, FRSC
A. B. Lehman, MSc, PhD
K. C. Smith, BASc, MASc, PhD, FIEEE, PEng

### Associate Members

R. Balakrishnan, PhD
A. Banerjea, BTech, PhD
A. Bilas, Dipl CS&E, MA, PhD
M. J. Black, PhD
W. A. S. Buxton, BSc, MSc
T. Coleman, PhD
J. W. Danahy, BLA, CUrbDes, MScUrb&DesPl
A. Demke-Brown, PhD
T. F. Fairgrieve, MSc, PhD
B. Frey, BSc, MSc, PhD
A. Hausner, MSc, PhD
H.-A. Jacobsen, BS, MS, PhD
I. Jurisica, DipIng, MSc, PhD
G. Kurtenbach, MSc, PhD
Y. Lesperance, MSc, PhD
B. Li, BE, MS, PhD
L. Libkin, PhD
S. MacKenzie, PhD
P. Marbach, MS, PhD
E. E. Milios, MSc, PhD
T. C. Mowry, BScEE, MSEE, PhD
G. Penn, MSc, PhD
D. Penny, BSc, MSc, PhD
S. Roweis, PhD
m. schraefel, MSc, PhD
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*Web:* www.cs.utoronto.ca

## Programs of Study and Research Areas

The Department of Computer Science offers a graduate program leading to two degrees: Master of Science (M.Sc.) and Doctor of Philosophy (Ph.D.). The graduate program consists of courses and research. Research is conducted under the supervision of a faculty member. Graduate faculty in the Computer Science Department 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.

## Admission Requirements

Applicants to both the M.Sc. and Ph.D. degree programs must complete an undergraduate degree equivalent to a four-year program at the University of Toronto with a standing equivalent to at least B+. Preference will be 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 traditional paper test) or 237 (on the recently introduced computer test) and a TWE essay score of at least 5.

## Degree Requirements

Both the M.Sc. and Ph.D. degree requirements include some courses and a thesis. The requirements may be reduced for applicants who have already taken some graduate studies in computer science.

### *Degree of Master of Science*

This degree program requires five computer science graduate half-courses and a thesis. The courses must satisfy a breadth requirement to ensure a broad and well-balanced knowledge and understanding of computer science. The thesis should demonstrate 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. A high standard of exposition is expected. This degree is offered on either a full-time or part-time basis.

### *Degree of Doctor of Philosophy*

This degree program requires nine computer science graduate half-courses and a thesis. The courses must satisfy a breadth requirement to ensure a broad and well-balanced knowledge and deep understanding of computer science. 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.

For further details, please consult the *Graduate Student Handbook* prepared by the Department also available at www.cs.utoronto.ca/Grad.

## Courses of Instruction

### *Programming Languages and Methodology*

CSC 2103H Software Architecture and Design
CSC 2104H Formal Methods of Program Design
CSC 2105H Software Engineering
CSC 2106H Requirements Engineering
CSC 2107H Language Processors
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

### *Computer Systems: Hardware and Software*

CSC 2204H Operating Systems
CSC 2205H Performance in Distributed Operating Systems
CSC 2206H System Modelling and Analysis
CSC 2207H Topics in Computer Organization
CSC 2209H Computer Networks
CSC 2221H Topics in the Theory of Distributed Systems
CSC 2225H Structure and Correctness in Operating Systems
CSC 2227H Topics in the Design and Implementation of Operating Systems
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 2415H Theoretical Aspects of Concurrent Programming
CSC 2423H Finite Model Theory and Descriptive Complexity
CSC 2426H Topics in Cryptography
CSC 2429H Topics in the Theory of Computation

***Applied Discrete Mathematics***
CSC 2406H Combinatorial Design Theory
CSC 2410H Algorithms in Graph Theory
CSC 2412H Computer Algebra
CSC 2413H Combinatorial Methods
CSC 2414H Topics in Applied Discrete Mathematics
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 Computational Vision I
CSC 2506H Probabilistic Reasoning
CSC 2511H Natural Language Computing
CSC 2512H Constraint Satisfaction Problems
CSC 2515H Machine Learning
CSC 2523H Computational Vision II
CSC 2528H Topics in 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 Computation in Neural Networks
CSC 2541H Topics in Machine Learning and Neural Networks
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 2522H Advanced Image Synthesis
CSC 2524H Topics in Interactive Computing
CSC 2529H Computer Animation
CSC 2536H Computer Support Cooperative Work
CSC 2537H Hypermedia

***Information Systems***
CSC 2507H Office Information Systems
CSC 2508H Information: Quantification, Representation, and Manipulation
CSC 2509H Data Management Systems
CSC 2510H Topics in Information Systems
CSC 2525H Research Topics in Database Mining
CSC 2526H Economics of Computers
CSC 2527H The Business of Software
CSC 2531H Advanced Topics in Data Management Systems

***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

# Criminology CRI

## Graduate Faculty

### Full Members

B. M. Dickens, LLB, LLM, PhD, LLD, Dr. William M. Scholl Chair in Health Law and Policy/Law
A. N. Doob, AB, PhD/Criminology
R. I. Gartner, BA, MS, PhD/Sociology
***(Director)***
J. R. Phillips, MA, LLB, PhD/Law
K. W. Roach, BA, LLB, LLM/Law
P. H. Solomon, BA, MA, CertRussInst, PhD/Political Science
P. C. Stenning, BA, LLM, SJD/Criminology
C. Strange, BA, MA, PhD/Criminology
***(Coordinator of Graduate Studies)***
M. Valverde, BA, MA, PhD/Criminology
N. S. Wortley, BA, MA, PhD/Criminology

### Members Emeriti

J. M. Beattie, BS, MA, PhD, FRSC, University Professor Emeritus
M. L. Friedland, OC, QC, FRSC, BCom, LLB, PhD, University Professor Emeritus

### Associate Members

M. Condon, BA, MA, LLM, SJD
B. Fischer, BA, MA, PhD
K. Hannah-Moffat, BA, MA, PhD
J. Hermer, BA, MA, DPhil
M. Lalumière, BSc, MPs, PhD, CPsych
D. Martin, BA, LLB, LLM
M. Peterson-Badali, BA, MA, PhD, CPsych
M. C. Seto, BSc, MA, PhD, CPsych

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*Web:* www.criminology.utoronto.ca

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, and (2) in which a basic training in criminology and the ability to embark upon and critically evaluate criminological research is necessary or desirable.

### TOEFL

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. A verbal score of 580 and a written score of 5 are required. Official copies of these scores must be submitted to the University before a formal offer of admission can be made.

## Degree of Master of Arts

### *Admission Requirements*

Candidates for admission will be required to have a four-year University of Toronto bachelor's degree or its equivalent from another university. A four-year bachelor's degree normally consists of 20 full courses. 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 J.D. degree or its equivalent will normally be required to have at least a B standing.

The program is designed for students familiar with the approaches and methodologies associated with the social sciences. It would be advantageous for students to have some background in the theories of crime and deviance and a basic knowledge of research methods. A student who is admitted without such background may be required to do special work before being enrolled.

The M.A. can be completed on a full-time or part-time basis. All candidates will be required to complete the program within the time limits set for the M.A. degree under the general regulations. Students with professional experience who meet the academic admission requirements are encouraged to join the program.

### *Program Requirements*

Candidates for the master's degree can complete the program in 1 of 2 ways: by completing 8 half-courses within 9 months or by completing 6 half-courses and a research paper within 12 months. The degree program divides into two sections: compulsory and optional courses.

The compulsory section consists of the courses on criminological theory and the research methods (CRI 1050H and CRI 2010H).

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 two half-courses 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.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Candidates for admission normally have an M.A. degree in Criminology, or an equivalent master's degree from a recognized university. Students from M.A. programs other than the University of Toronto's M.A. in Criminology may be required to take additional courses as part of their doctoral program. Applicants will not normally be considered unless they achieved a minimum A- standing in their M.A. degree program.

### *Program Requirements*

Candidates for the Ph.D. degree 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.

Ph.D. students with the University of Toronto M.A. in Criminology or its equivalent must fulfil the following requirements:

*Comprehensive Examination*

There will be two comprehensive examinations, one that is defined in terms of a theoretical area and the other defined in terms of a substantive area such as the following: courts, gender and crime, juvenile justice, policing, race and crime, sanctions and punishment.

*Course Requirements*

Ph.D. students must complete a minimum of four half-courses beyond those taken at the M.A. level. Students must complete, at either the M.A. or the Ph.D. level, the required criminological theory course (CRI 1050L) and the research methods course (CRI 2010L). Ph.D. students are also required to participate in the non-credit research seminar.

*Course Schedule*

Students will normally complete all course requirements for the Ph.D. in the first year of their Ph.D. program. Comprehensives will normally be completed by the end of the first term of the second year. It is expected that the dissertation should be completed and successfully defended during the fourth year.

*Language Requirements*

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.

*Thesis*

Ph.D. 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.

## Junior Fellowships at the Centre

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 Junior Fellowship program at the Centre is to involve doctoral students who are studying in areas related to criminology and to enhance the intellectual life of the Centre. The program reflects the Centre's commitment to the multidisciplinary character of criminological research. Therefore, Junior Fellowships are awarded to students whose academic performance, demonstrated interest in criminology and desire to participate actively in the life of the Centre make it likely that they will contribute to the achievement of the objective of the program.

Junior Fellows are eligible for office space at the Centre of Criminology, as well as access to other Centre facilities. The status of Junior Fellow does not include any financial award.

Under special circumstances, students who are enrolled in graduate programs at other universities and who are undertaking research on a criminological topic may apply to be appointed as Visiting Junior Fellows.

Since the Junior Fellowships began in 1976, more than 50 students have been associated with the Centre in this way. Students have come from a variety of disciplines including Anthropol-

ogy, Education, History, Law, Political Science, Psychology, Social Work, and Sociology.

Enquiries concerning Junior Fellowships or the Ph.D. program should be directed to the Coordinator of Graduate Studies at the Centre of Criminology.

**Combined J.D./M.A. in Criminology**

Law students who also want to pursue graduate work in criminology may undertake the combined J.D./M.A. in Criminology degree program.

***Admission Requirements***

In a combined program, applicants must gain independent admission to both programs. Applicants may be admitted before they enter the J.D. program or while they are in the first year. Applicants wishing to apply to the Combined J.D./M.A. program in Criminology should contact the Admissions Office, Faculty of Law, University of Toronto at (416) 978-3716.

***Program Requirements***

Students first take the full first-year law program. This is followed by two combined years. Over the course of the two combined years students must:

**1** take 45 credits in the Faculty of Law,
**2** satisfy the compulsory requirements of the upper years of the J.D. These are a moot, an extended paper, and a perspective course,
**3** take six half-courses at the Centre of Criminology; one of these half-courses must be either a theory or a research methods course. Two of these half-courses may be taken in the form of the Centre of Criminology's Research Paper.

Students must do a minimum of two half-courses in Criminology in each of the second and third years of the program, and may do a maximum of four half-courses 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.

**Collaborative Programs**

Criminology participates in two collaborative programs:
Addiction Studies
Women's Studies

For detailed information, consult the separate entries in this calendar.

**Courses of Instruction**

All courses are half-courses, with the exception of the Research Paper. 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.

***I Required Courses***

CRI 1050H Theories of Crime and Social Order/*M. Valerde*
CRI 2010H Methodological Issues in Criminology/*A. N. Doob*

***II Optional Courses***

CRI 1010H Crime and Control in Legal Perspective/*Staff*
CRI 1020H Law and Society: Theoretical Perspectives/*Staff*
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/*P. H. Solomon*
CRI 3130H Policing/*P. C. Stenning*
CRI 3140H Special Topics in Criminology/ *R. I. Gartner*
CRI 3150H Crime, Law, and the State in Early Modern England, 1650-1850/*J. M. Beattie*
CRI 3160H Historical Approaches to Crime and Justice in Canada/ *C. Strange*
CRI 3240H Penology/*N. S. Wortley*
CRI 3270H The Psychology of Criminal Behaviour: Theory and Practice/*M. Lalumière, M. C. Seto*
CRI 3310H Special Topics in Criminology/ *M. Valverde*
CRI 3320H The Criminal Process/*D. Martin*
CRI 3330H Contemporary Issues in Safety and Security
CRI 3340H Special Topics in Criminology/ *M. Condon*
CRI 3350H Directed Research in Criminology/*Staff*
CRI 3351H Directed Research in Criminology/*Staff*
CRI 3360Y° Research Paper/*Staff*

°Courses which may continue over a program. The course is graded when completed.

# Curriculum, Teaching and Learning CTL

## Graduate Faculty

### Full Members

A. T. Anderson, BA, MEd, PhD
M. Beattie, BA, MA, MEd, EdD
C. M. Beck, BA, BEd, PhD
M. J. Berger, BEd, MEd, PhD
K. Bickmore, BA, MA, PhD
D. G. Bogdan, BA, MA, PhD
L. M. Cameron, BA, MEd, EdD
S. Churchill, PhD
R. S. Cohen, MSc, PhD
C. Conle, BA, MA, PhD
F. M. Connelly, BEd, BSc, MSc, PhD
A. H. Cumming, BA, MA, PhD
J. P. Cummins, BA, PhD
M. Danesi, BA, MA, PhD, FRSC
V. Darroch-Lozowski, BSc, MA, PhD
L. E. Davie, BA, MA, PhD
C. T. P. Diamond, BA, PhD
J. P. Farrell, BSc, PhD
G. Feuerverger, BA, MA, PhD
A. Gagné, BEd, MEd, PhD
K. Gallagher, BA, BEd, MEd, PhD
D. Gérin-Lajoie, BSc, MA, PhD
E. Geva, BA, MA, PhD, CPsych
T. Goldstein, BA, PhD
L. Hannay, BA, MEd, PhD
S. E. Hidi, BA, MA, PhD
D. Hodson, BSc, MEd, PhD
A. Jordan, BA, MA, PhD
B. S. Kilbourn, BS, PhD
M. Kooy, BA, MA, PhD
C. Kosnik, BA, BEd, MEd, PhD
N. Labrie, BA, MA, PhD
T. C. M. Lam, BA, PhD
S. Lapkin, BA, MA, PhD
R. K. Logan, BSc, PhD
R. S. McLean, BA, MA, PhD
J. P. Miller, BA, MAT, PhD
R. J. Morgan, BA, MEd, PhD
E. Pedretti, BSc, BEd, MEd, PhD
C. Rolheiser, BEd, MEd, PhD
J. A. Ross, BA, MA, PhD
M. A. Scardamalia, BA, MS, PhD
D. E. Selby, BA, PhD
R. I. Simon, BS, PhD
E. M. Smyth, BA, BEd, MA, EdD
N. Spada, BA, MA, PhD
K. E. Stanovich, BA, MA, PhD
P. Stanovich, BSEd, MA, PhD
M. K. Swain, BA, PhD
D. R. Thiessen, AB, MEd, DPhil
***(Associate Chair and Coordinator of Graduate Studies)***
R. E. Traub, PhD
M. W. Wahlstrom, BEd, MEd, PhD
***(Chair)***
J. Weiss, BA, MA, PhD
D. M. Willows, BA, MA, PhD, CPsych
D. N. Wilson, BA, MSc, PhD

### Members Emeriti

J. L. Aitken, PhD
J. P. B. Allen, BA, MA, PhD
D. W. Booth, BA, MEd
J. N. Frenette, BA, MA, MEd, PhD
G. Hanna, BA, MA, MEd, PhD
B. Harley, BA, MA, PhD, CCDF
B. G. Kelly, BSc, MSc, PhD, EdD
L. D. McLean, PhD
P. Nagy, BSc, MEd, PhD
S. Nishisato, BA, MA, PhD
H. H. Russell, EdD

### Associate Members

N. Bélanger, BA, MA, PhD
J. L. Bencze, BSc, BEd, MSc, PhD
B. Bennett, BPE, MEd, PhD
R. A. Childs, BS, MA, PhD
K. Cooper, BA, MA, PhD
J. Dillabough, BA, MA, PhD
L. M. Earl, PhD
D. M. Evans, MA
L. Fitznor, BA, MEd, EdD
B. A. F. Herbel-Eisenmann, BSc, MA, PhD
J. Hewitt, BM, BEd, MEd, PhD
I. Hundey, BA, MA
D. McDougall, BEd, BM, EdD
S. Peterson, BA, BEd, MEd, PhD
W. O. Seller, BA, MEd
Z. L. Shore, BA, DipEd, MED, EdD
S. Stiegelbauer, BS, AM, MA, PhD
P. P. Trifonas, BA, BEd, MA, PhD
M. S. Turnbull, BA, MA, PhD
J. A. Wilkinson, BA, BEd, MA, PhD
R. G. Wolfe, BA
E. Woodruff, BSc, BEd, MA, PhD

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*E-mail:* ctl@oise.utoronto.ca
*Web:* edu.oise.utoronto.ca/depts/ctl/

Initial enquiries regarding admission to graduate studies in the Curriculum, Teaching and Learning Department 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
Canada
M5S 1V6

Such enquiries should be made well in advance of the December 3 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 can be admitted. Program and admission details are printed in the *OISE/UT Bulletin*, available from the OISE/UT Registrar's Office. Not all courses are offered every year; consult the Department each term for course offerings.

The following graduate programs are offered by the CTL Department:
**1** Curriculum (M.Ed., M.A., Ed.D., Ph.D.)
**2** Master of Arts in Teaching (M.A.(T.))
**3** Measurement and Evaluation (M.Ed., M.A., Ed.D., Ph.D.)
**4** Human Development and Curriculum (M.T.)
**5** Second Language Education (M.Ed., M.A., Ed.D., Ph.D.)
**6** Teacher Development (M.Ed., M.A., Ed.D., Ph.D.)

CTL also offers the following collaborative graduate degree programs:
**1** Comparative, International and Development Education (M.Ed., M.A., Ed.D, Ph.D.)
**2** Environmental Studies (M.Ed., M.A., Ed.D., Ph.D.)
**3** Women's Studies (M.Ed., M.A., Ed.D, Ph.D.)
For further information, consult the separate entries in this calendar.

**1 Curriculum Program**
The Curriculum Program is a forum for systematic reflection on the substance (subject matter, courses, programs), purposes, and practices used to bring 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: subject matter, learning, teaching, and the larger social, political, and economic contexts as well as the immediate instructional situation.

Six areas of specialization are supported within the Curriculum Program:
**a** Adaptive Instruction
**b** Computer Applications
**c** Curriculum Studies
**d** Holistic and Aesthetic Education
**e** Science, Mathematics, and Technology Education
**f** Social Justice and Cultural Studies in Education

***Degree of Master of Education***
This degree program is designed chiefly for the professional improvement of those who are already engaged in a career related to education. Candidates 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, completed with an academic standing equivalent to a University of Toronto mid-B or better in the final year. Candidates with an appropriate three-year University of Toronto bachelor's degree or its equivalent may also be accepted. Ordinarily, applicants will have at least one year of relevant successful professional experience prior to applying.

The M.Ed. program consists of eight half-courses, four of which normally are undertaken in the program/specialization, plus a major research project (MRP), and may be taken on a full or part-time basis. Additional study may be required either within the degree program or prior to admission, depending on previous experience and academic qualifications. Students are required to successfully complete CTL 1000H. All requirements for the degree must be completed within six calendar years from first enrolment.

***Degree of Master of Arts***
This degree program is designed to provide academic study and research training related to fields of professional specialization in curriculum. Candidates are accepted under the general regulations. Admission normally requires a four-year University of Toronto bachelor's degree, or its equivalent, in a relevant discipline or professional program, completed with 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. Students who anticipate further study at the Ph.D. level are advised to apply for enrolment in an M.A. program rather than an M.Ed. program.

The M.A. program may be undertaken on a full-time or part-time basis and consists of eight

half-courses, four of which normally are undertaken in the program/specialization, and a thesis. Additional courses may be required of some applicants, depending on previous experience and academic qualifications. Students are required to successfully complete CTL 1000H. All requirements for the degree must be completed within five calendar years from first enrolment.

***Degree of Doctor of Education***

This degree program is intended for established practitioners in positions involving responsibility for curriculum design and implementation. A University of Toronto M.Ed. or M.A. in education, or its equivalent from a recognized university, in the same area of specialization proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Further documentation may be required to establish equivalence. Ordinarily, applicants will have a minimum of three years professional experience in education prior to applying. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ed.D. normally consists of eight half-courses, four of which must be undertaken in the program specialization. Additional courses may be required of some candidates. Students must successfully complete 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 are also required. The Ed.D. program includes one year of full-time study but may be initiated on a full-time or part-time basis. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Doctor of Philosophy***

The Ph.D. program is intended primarily as preparation for academic positions in universities and demands a strong commitment to curriculum research. A University of Toronto master's degree in education, or its equivalent from a recognized university, in the same area of specialization as proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Further documentation may be required to establish equivalence. Ordinarily, applicants will have a minimum of two years professional experience prior to applying. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ph.D. program normally consists of six half-courses, four of which are ordinarily undertaken in the program specialization. Additional courses may be required of some students. Students must successfully complete a comprehensive examination. In addition, a thesis, embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis are required. The Ph.D. program must be initiated on a full-time basis and requires two years of consecutive full-time study. All requirements for the degree must be completed within six calendar years of first enrolment.

***Courses of Instruction***

Not all courses are offered every year. Please consult the Department for course offerings.

*Curriculum Studies Specialization*

| | |
|---|---|
| CTL1000H | Foundations of Curriculum/ *C. T. P. Diamond, L. M. Hannay, W. Seller, J. Weiss, or Staff* |
| CTL1000H | Fondements du développement des programmes scolaires/*N. J. Frenette ou membre de la faculté à déterminer* |
| CTL 1001H | Values and Schooling/*C. M. Beck* |
| CTL 1002H | Curriculum Development for Effective Teaching/*J. A. Ross or staff* |
| CTL 1002H | Planification de la programmation pour un enseignement efficace/ *M. J. Berger or staff* |
| CTL 1003H | Language Arts in Primary Education/*D. M. Willows* |
| CTL 1004H | Reading and Language Comprehension/*D. M. Willows* |
| CTL 1005H | Language, Literacy, and the School Curriculum/*D. Booth* |
| CTL 1006H | English at the Secondary School Level/*R. J. Morgan* |
| CTL 1007H | Curriculum Policy and State/*N. J. Frenette* |
| CTL 1008H | Children's Literature as a Foundation of Literate Behaviour across the Curriculum/*Staff* |
| CTL 1009H | Reading and Writing in the School: Elementary/*Staff* |
| CTL 1010H | Children's Literature Within a Multicultural Context/*G. Feuerverger* |
| CTL 1011H | Anti-Discriminatory Education in School Settings/*T. Goldstein* |

CTL 1012H Curriculum for Girls and Young Women: Historical and Contemporary Issues/*E. Smyth*
CTL 1013H Instructional Innovation in the Elementary and Secondary Schools/*J. A. Ross*
CTL 1014H Evaluation of Curriculum and Instruction/*J. A. Ross, or M. W. Wahlstrom*
CTL 1015H Curriculum and Student Evaluation/*M. W. Wahlstrom*
CTL 1016H Cooperative Learning/*J. A. Ross*
CTL 1017H The Search for Educational Quality and Excellence in a Global Economy: Its Impact on School and Curriculum (Computer Conferencing)/*Staff*
CTL 1017H La recherche de la qualité et de l'excellence en éducation dans le contexte de l'économie globale: l'impact sur l'école et le curriculum (via ordinateur)/*Staff*
CTL 1018H Introduction to Qualitative Inquiry in Curriculum, Teaching, and Learning/*Staff*
CTL 1019H Authentic Assessment/ *C. Roheiser, J. Ross, M-J. Berger, Staff*
CTL 1020H Teaching High Ability Students/ *E. Smyth*
CTL 1021H Learning in Non-School Settings/ *J. Weiss*
CTL 1023H Technology and Education: Critical Perspectives on Theory and Practice/*P. Trifonas*
CTL 1024H Poststructuralism and Education/ *P. Trifonas*
CTL 1800H Research Colloquium in Curriculum and Instruction/*Staff*
CTL 1801H Action Research and Professional Practice/*J. Weiss*
CTL 1802H The Conceptualization of Curriculum Problems/*J. Weiss*
CTL 1803H Research Seminar in Reading/ *K. E. Stanovich*
CTL 1804H The Linguistic Analysis of Interaction in Educational Settings/*Staff*
CTL 1805H Advanced Seminar in Language and Learning: Theory and Practice/*Staff*
CTL 1806H Seminar on Sociocultural Theory and its Applications to Educational Research and Practice/*Staff*
CTL 1807H The Curriculum of Non-School Settings/*J. Weiss*
CTL 1808H Curriculum Innovation in Teacher Education/*D. Thiessen*

*Holistic and Aesthetic Specialization*

CTL 1100H Holistic Arts Therapies in the Creative Curriculum/*J. A. Wilkinson*
CTL 1102H Arts and Education: Planning and Implementation of Arts Programs/*D. Booth*
CTL 1103H Arts, Culture, and Education/*J. A. Wilkinson*
CTL 1104H Seminar: Current Issues in Play, Drama, and Arts Education/*J. A. Wilkinson*
CTL 1105H Research and Inquiry in Arts Education/*J. A. Wilkinson*
CTL 1106H Spirituality in Education/*J. Miller*
CTL 1107H The Body's Ways of Knowing/ *V. Darroch-Lozowski*
CTL 1108H The Phenomenological Curriculum/*V. Darroch-Lozowski*
CTL 1110H The Holistic Curriculum/*J. Miller*
CTL 1111H Creative Arts Special Subject/ *D. Booth*
CTL 1112H Interpretive Research Methods in Holistic and Aesthetic Education/*Staff*
CTL 1113H Art and Play in Children's Culture/ *Staff*
CTL 1114H Exploring Human Understanding and Education through Visual Media/*V. Darroch-Lozowski*
CTL 1115H Teacher Education and the Construction of Professional Knowledge: Holistic Perspectives/*M. Beattie*
CTL 1116H Holistic Approaches in the Elementary Mathematics Curriculum/*R. Cohen*
CTL 1117H Liberatory Practices in Drama and Education/*K. Gallagher*
CTL 1118H The Visual Arts as a Teaching and Learning Strategy/ *S. Stiegelbauer*
CTL 1820H Research in Special Collections of Children's Literature/ *J. Wilkinson*
CTL 1821H Imagination, Language and Learning/*V. Darroch-Lozowski*
CTL 1822H Postmodern Presentations of Culture/*V. Darroch-Lozowski*
CTL 1823H Arts and Education: Play, Drama, and Thought/*J. A. Wilkinson*
CTL 1824H Research Seminar in Holistic Arts Therapies Education/ *J. Wilkinson*
CTL 1825H The Teacher as a Contemplative Practitioner/*J. Miller*
CTL 1826H Colloquium in Arts and Education/ *J. Wilkinson*

CTL 1827H Concepts in Holistic and Aesthetic Education/*Staff*

*Science, Mathematics, and Technology Specialization*

CTL 1200H Science in the School Curriculum: Elementary/*L. Bencze*
CTL 1201H Science in the School Curriculum: Secondary/*L. Bencze*
CTL 1202H Mathematics in the School Curriculum: Elementary/*Staff*
CTL 1203H Mathematics in the School Curriculum: Secondary/Staff
CTL 1204H Making Mathematics Learning Meaningful for Secondary School Students/*R. Cohen*
CTL 1205H The Education of Science Teachers/*Staff*
CTL 1206H Fundamentals of Program Evaluation/*D. Hodson*
CTL 1207H Teaching and Learning about Science: Issues and Strategies in Science, Technology, Society, and Environment (STSE) Education/*E. Pedretti*
CTL 1208H Curriculum Issues in Science and Technology: An Historical Perspective/*D. Hodson*
CTL 1209H Current Issues in Science and Technology Education/*D. Hodson*
CTL 1210H Assessment and Evaluation in Science and Technology Education/*D. Hodson*
CTL 1211H Action Research in Science and Technology Education/*D. Hodson, E. Pedretti, L. Bencze*
CTL 1212H Curriculum Making in Science: Some Considerations in the History, Philosophy and Sociology of Science/*D. Hodson*
CTL 1213H Action Research in Mathematics Education/*R. Cohen*
CTL 1214H Equity Issues in Science and Technology/*D. Hodson*
CTL 1215H Teaching and Learning About Science and Technology: Beyond Schools/*E. Pedretti*
CTL 1840H Gender Issues in Mathematics, Science, and Technology/ *G. Hanna*
CTL 1841H Research Seminar in Science Education/*D. Hodson, E. Pedretti, L. Bencze*

*Social Justice and Cultural Studies in Education*

CTL 1300H Curriculum, Popular Culture, and Social Difference/*R. Simon*
CTL 1301H Language, Power, and Possibility: Application to Curriculum/*R. Simon*
CTL 1302H Media Studies and Education/ *R. J. Morgan*
CTL 1303Y Global Education: Theory and Practice/*D. Selby*
CTL 1304H Cultural Studies and Education/ *R. J. Morgan*
CTL 1305H Television and Education: Theoretical Perspectives/*R. J. Morgan*
CTL 1306H Qualitative Research Methods in Education: Concepts and Methods/*D. Gérin-Lajoie*
CTL 1306H La recherche qualitative en éducation: bases théoriques et pratiques/*D. Gérin-Lajoie*
CTL 1307H Identity Construction and Education of Minorities/*D. Gérin-Lajoie*
CTL 1307H Identité collective et éducation minoritaire de langue française/ *D. Gérin-Lajoie*
CTL 1308H Education and Cosmology/*E. V. O'Sullivan*
CTL 1309H Les stéréotypes sexuels dans les programmes scolaires/*D. Gérin-Lajoie*
CTL 1310H Feminist Theory, Identity Politics and Contemporary Educational Thought/*J. Dillabough*
CTL 1311H Gender Education and Nationhood: An International Feminist Dialogue/*J. Dillabough*
CTL 1312H Democratic Citizenship Education/*K. Bickmore*
CTL 1313H Gender Equity in the Classroom/ *Staff*
CTL 1314H Environmental and Humane Education: Theory and Practice/ *D. Selby*
CTL 1315H Arts and Education: Practice and Theory *(Formerly CLT 1101H)*/ *D. Bogdan*
CTL 1316H Global Education: Theory and Practice I/*D. Selby*
CTL 1317H Global Education: Theory and Practice II/*D. Selby*
CTL 1860H Pedagogical Futures for English Studies: Rethinking English at the Secondary School Level/ *R. J. Morgan*
CTL 1861H Critical Ethnography/*T. Goldstein*

*Adaptive Instruction Specialization*

CTL 1400H Classroom Adaptations and Instructional Strategies/*E. Geva, A. Jordan, J. Wiener*

CTL 1401H The Resource Consultant: Skills in Classroom Consultation (CR/NCR)/*A. Jordan, P. J. Stanovich, D. McGhie-Richmond*
CTL 1402H Adaptive Instruction in Inclusive Classrooms/*A. Jordan, P. Stanovich*
CTL 1403H Special Education and Social Representation of Difference/*N. Bélanger*
CTL 1880H Analysis of Instruction/*A. Jordan*

For additional Adaptive Instruction courses, consult the entry for the Department of Human Development and Applied Psychology in this calendar.

*Computer Applications Specialization*
CTL 1600H Implementing Dynamic Web Interaction for Education/*R. S. McLean*
CTL 1601H Instructional Technology: Computer-Based Instruction/*E. Woodruff*
CTL 1602H Introduction to Computer Applications in Education/*L. E. Davie, J. Hewitt, or R. S. McLean*
CTL 1603H Instructional Technology: Instructional Programming/*Staff*
CTL 1604H Instructional Technology: Video/Multimedia Design/*R. S. McLean*
CTL 1605H Internet Resources and Education/*R. S. McLean*
CTL 1606H Computers in the Curriculum/*B. Durell, M. McDougall*
CTL 1607H Computer Studies and the Teaching of Programming/*R. S. Cohen*
CTL 1608H Instructional Technology: Instructional Design/*J. Hewitt*
CTL 1609H Educational Applications of Computer-Mediated Communication/*L. E. Davie, R. S. McLean, B. Durell*
CTL 1610H Technology in Mathematics Education: Secondary/*G. Hanna*
CTL 1611H Computer-Mediated Distance Education/*L. Davie*
CTL 1612H The Virtual Library (Non-Credit)/*M. Wahlstrom or staff*
CTL 1920H Research Seminar in Interactive Systems for Education/*R. S. McLean*
CTL 1921H Computer-Supported Intentional Learning Environments/*M. Scardamalia*
CTL 1922H Instructional Technology: Seminar in Interactive Video/Graphics/*R. S. McLean*
CTL 1923H Technology Supported Environments for Situated Learning/*R. S. Cohen*
CTL 1924H Research Issues in Educational Computer-Mediated Communication/*L. E. Davie or R. S. McLean*
CTL 1925H Doctoral Seminar: Research Issues in Computer Applications (CR/NCR)/*R. S. Cohen, L. E. Davie, or R. S. McLean*

*General Courses in Curriculum Program*
CTL 1797H Practicum in Curriculum: Master's Level/*Staff*
CTL 1798H Individual Reading and Research in Curriculum: Master's Level/*Staff*
CTL 1799H Special Topics in Curriculum: Master's Level/*Staff*
CTL 1997H Practicum in Curriculum: Doctoral Level/*Staff*
CTL 1998H Individual Reading and Research in Curriculum: Doctoral Level/*Staff*
CTL 1999H Special Topics in Curriculum: Doctoral Level/*Staff*

**2 Master of Arts in Teaching Program**
The Master of Arts in Teaching or M.A.(T.) program is designed for the professional teacher of Language Arts and/or English. It includes a balance of contemporary educational, literary and literacy theories with content in English studies.

***Admission Requirements***
Admission to the Master of Arts in Teaching program normally requires a four-year bachelor's degree, or its equivalent, in English or English and another subject from the University of Toronto or another recognized university. Applicants are required to have a mid-B standing in English courses. One year of teaching experience, or equivalent professional experience prior to application is also required.

***Program Requirements***
In order to complete the M.A.(T.) program students must:
**a** complete CTL 5000Y *History and Theory of the Study of English*;

(CR/NCR) Credit/No Credit

**b** complete the equivalent of two half-courses offered by the Master of Arts in Teaching Program;
**c** complete the equivalent of two half-courses offered by the Curriculum Program or Teacher Development Program;
**d** complete the equivalent of two-half courses offered by the Graduate Department of English.

All requirements for the degree must be completed within five calendar years of first enrolment. Note that this program is currently under review by the Ontario Council on Graduate Studies (OCGS).

***Courses of Instruction***

Not all courses are offered every year. Please consult the department for course offerings.

| | |
|---|---|
| CTL 5000Y | History and Theory of the Study of English/*Staff* |
| CTL 5001H | Approaches to Shakespeare/*Staff* |
| CTL 5002H | The Origins of Modern English/ *D. M. McDougall, I. C. McDougall* |
| CTL 5003H | Approaches to Narrative/*J. D. Duffy, C. Kanaganayakam* |
| CTL 5004H | Approaches to Poetry/*R. M. Brown* |
| CTL 5005H | Approaches to Canadian Writing/ *R. M. Brown, J. D. Duffy* |
| CTL 5006H | Studies in Mythology and Legend/*Staff* |
| CTL 5007H | Approaches to Drama/*Staff* |
| CTL 5008H | Teaching Writing/*G. Henderson* |
| CTL 5009H | Approaches to Women's Writing/ *H. Murray* |
| CTL 5797H | Practicum in Master of Arts in Teaching Program |
| CTL 5798H | Individual Reading and Research in Master of Arts in Teaching Program |
| CTL 5799H | Special Topics in Master of Arts in Teaching Program |

**3 Measurement and Evaluation Program**

The Measurement and Evaluation Program is designed to develop knowledge and skills in quantitative and qualitative methods used in research and in evaluation. For the master's degree, the domains covered include the design of research and evaluation studies, the development of instruments and related theory, the collection and analysis of data, and statistical theories and methods. For the doctoral degree, students are expected to specialize in either Measurement or Evaluation. The Measurement specialization is for those interested in quantitative methods and theory, including psychometric and statistical theory. The Evaluation specialization is for those interested in the evaluation of programs (including a wide range of social and educational programs) or in student evaluation (including large-scale assessments of student achievement), using both quantitative and qualitative methodologies.

***Degree of Master of Education***

Candidates 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, completed with standing equivalent to a University of Toronto mid-B or better in the final year. Candidates with an appropriate three-year University of Toronto bachelor's degree or its equivalent may also be accepted.

The M.Ed. program may be undertaken on a full or part-time basis and consists of eight half-courses plus a research project/paper. Students are ordinarily required to take courses CTL 2006H, CTL 2007H, CTL 2008H, CTL 2009H, and CTL 2808H. Students who have not studied statistics at least to the level of course CTL 2004H must take CTL 2004H as an extra course. Additional study may be required either within the degree program or prior to admission. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Master of Arts***

Candidates are accepted under the general regulations. The usual admission requirement for the M.A. is a four-year bachelor's degree in mathematics, statistics, computer science, or a relevant social or behavioral science. Applicants who anticipate further study at the Ph.D. level are advised to apply for enrolment in an M.A. program rather than an M.Ed. program.

The M.A. program may be undertaken on a full-time or part-time basis and consists of six to eight half-courses and a thesis. Students are ordinarily required to take courses CTL 2006H, CTL 2007H, CTL 2008H, CTL 2009H, and CTL 2808H. Students who have not studied statistics at least to the level of course CTL 2004H must take CTL 2004H as an extra course. Additional courses may be required of some students. All requirements for the degree must be completed within five calendar years of first enrolment.

***Degree of Doctor of Education***

The Ed.D. program is designed for practicing social service professionals who wish to acquire knowledge and skills at the doctoral level in measurement and evaluation, with emphasis on applying these to research and practice.

Applicants will ordinarily have a minimum of three years professional experience in education prior to applying. A University of Toronto M.Ed. or M.A. in education, or its equivalent from a recognized university, in the same area of specialization proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ed.D. program normally consists of eight half-courses. Candidates are expected to have taken courses CTL 2006H, CTL 2007H, CTL 2008H, CTL 2009H, and CTL 2808H or their equivalents. Students lacking one or more of these courses are required to take them in addition to the regular doctoral program, which must include at least four CTL 2800-level courses. Students must successfully complete 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 are also required. The ideal arrangement is for Ed.D. candidates to begin their program on a part-time basis. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Doctor of Philosophy***

The Ph.D. program emphasizes theoretical concerns of the fields of measurement and evaluation. A University of Toronto M.A. in education, or its equivalent from a recognized university, in the same area of specialization proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ph.D. program normally consists of six half-courses. Candidates are expected to have taken courses CTL 2006H, CTL 2007H, CTL 2008H, CTL 2009H, and CTL 2808H or their equivalents. Students lacking one or more of these courses are required to take them in addition to the regular doctoral program, which must include at least four CTL 2800-level courses. Students must successfully complete 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 are also required. The Ph.D. program must be initiated on a full-time basis and requires two years of consecutive full-time study. All requirements for the degree must be completed within six calendar years of first enrolment.

***Courses of Instruction***

Not all courses are offered every year. Please consult the Department for course offerings.

| | |
|---|---|
| JCT 2000H | Proseminar in Educational Evaluation, Measurement and Policy Analysis/*L. Earl, R. Wolfe* |
| JCT 2001H | Using Classroom Assessment to Enhance Student Learning/ *L. Earl, R. Childs* |
| CTL 2000H | Descriptive Statistics (Non-Credit)/*Staff* |
| CTL 2001H | Elementary Matrix Algebra (Non-Credit)/*S. Nishisato* |
| CTL 2002H | Alternatives to Quantitative Evaluation in Education/*Staff* |
| CTL 2003H | Measurement and Accountability/ *G. P. Nagy* |
| CTL 2004H | Elements of Statistics/*G. Hanna, L. D. McLean, P. Nagy, S. Nishisato, R. E. Traub, or Staff* |
| CTL 2005H | Applied Dual Scaling (CR/NCR)/ *S. Nishisato* |
| CTL 2006H | Fundamentals of Program Planning and Evaluation/*T. Lam or Staff* |
| CTL 2007H | Research Methods in Education/ *T. Lam or Staff* |
| CTL 2007H | Les principes de la mesure en éducation/*M. J. Berger* |
| CTL 2008H | Data Analysis in Education/ *R. Childs or Staff* |
| CTL 2009H | Instrument Development in Education/*R. E. Traub or Staff* |
| CTL 2010H | Research and Issues in Alternative Methods/*T. Lam* |
| CTL 2011H | Path Analysis/*G. Hanna* |
| CTL 2797H | Practicum in Measurement and Evaluation: Master's Level/*Staff* |
| CTL 2798H | Individual Reading and Research in Measurement and Evaluation: Master's Level/*Staff* |
| CTL 2799H | Special Topics in Measurement and Evaluation: Master's Level/ *Staff* |
| CTL 2800H | Structural Equations with Latent Variables/*Staff* |
| CTL 2801H | Test Theory/*R. Childs* |
| CTL 2802H | Performance Assessment/*T. Lam* |

(CR/NCR) Credit/No Credit

CTL 2803H Evaluation Methodology and Theory/*T. Lam*
CTL 2804H Measurement and Cognition/ *P. Nagy*
CTL 2805H Scaling Theory/*S. Nishisato*
CTL 2806H Evaluation of Educational Policies/*S. Churchill*
CTL 2807H Applied Research Design and Data Analysis/*P. Nagy*
CTL 2808H Intermediate Statistics and Research Design/*P. Nagy, R. Traub, or Staff*
CTL 2809Y Multivariate Analysis with Applications/*S. Nishisato or R. G. Wolfe*
CTL 2810H Seminar in Evaluation Problems/ *Staff*
CTL 2811H Seminar in Measurement and Experimental Design/*Staff*
CTL 2812H Scaling Methods/*R. Childs*
CTL 2813H Measurement and Educational Policy/*P. Nagy*
CTL 2997H Practicum in Measurement and Evaluation: Doctoral Level/*Staff*
CTL 2998H Individual Reading and Research in Measurement and Evaluation: Doctoral Level/*Staff*
CTL 2999H Special Topics in Measurement and Evaluation: Doctoral Level/ *Staff*

**4 Human Development and Curriculum Program**

The Department of Curriculum, Teaching and Learning, and the Department of Human Development and Applied Psychology offer a two-year Master of Teaching degree in Human Development and Curriculum. Upon successful completion of this program, students will be awarded a Master of Teaching degree and a recommendation to the Ontario College of Teachers for an Ontario Teachers' 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 cooperating departments contribute courses, provide facilities, and provide supervision for graduate research. Applicants are admitted to the program through either of the two departments.

The Human Development and Curriculum program offers students a unique educational opportunity for teacher qualification with advanced theoretical knowledge and research skills. The program provides students with a strong conceptual grounding in human development, cognitive psychology, educational technology, curriculum, teaching, and learning. The high level of academic rigour in conjunction with increased practicum opportunities serves to enhance and extend the theoretical and practical experiences of students preparing to teach.

Program objectives are achieved through a combination of formal course work, teaching and research seminars, internship and practica, along with independent and collaborative research and major research papers.

***Admission Requirements***

Applicants are admitted under the general regulations of the School of Graduate Studies. Applicants normally must have the equivalent of a University of Toronto four-year bachelor's degree with standing equivalent to a University of Toronto mid-B or better in the final year. Applicants are also expected to have experience working with groups of children. Final selection will be based on an interview by a panel of faculty, teachers, and students. Given the limited number of students in this program, not all eligible applicants can be admitted.

Applicants apply for admission to this program through either the Department of Curriculum, Teaching and Learning or the Department of Human Development and Applied Psychology. Admission and degree requirements for the program are the same for both departments. Because applicants are applying to a teacher education program, the following items must be submitted with the application:

**a** 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
**b** a photocopy of a certificate of change of name where applicable
**c** satisfactory evidence of freedom from tuberculosis (required by the Ontario College of Teachers)

***Note:*** In addition, a criminal record check is required for certification by the Ontario College of Teachers.

***Program Requirements***

The two-year M.T. degree is composed of the equivalent of 16 half-courses (14 core and 2 electives), including practica, and is undertaken on a full-time basis. Normally, advanced standing is not granted in this program. In addition to the course work (including practica), all candidates must successfully complete a comprehensive examination at the end of the program in order to graduate and receive the M.T. degree and a recommendation to the Ontario College of Teachers for an Ontario Teachers' Certificate of Qualification. Registration in the sec-

ond year is contingent upon successful completion of all first-year work.

***Core Courses***

*Curriculum, Teaching and Learning*

| | |
|---|---|
| CTL 1011H | Anti-Discriminatory Education in School Settings |
| CTL 1019H | Authentic Assessment |
| CTL 7000Y | Curriculum and Teaching |
| CTL 7001H | Collaboration, Curriculum, Community, and Teaching |
| CTL 7003H | Conceptual Basis for Methods of Teaching in Primary, Junior, and Intermediate Classrooms |

*Human Development and Applied Psychology*

| | |
|---|---|
| HDP 1201H | Child and Adolescent Development |
| HDP 4280H | Introduction to Special Education and Adaptive Instruction |
| HDP 4288H | Reflective Teaching and Analysis of Instruction |
| HDP 7002H | Ethical, Legal, and Professional Issues in Education |
| HDP 7004Y | Practicum in Schools |
| HDP 7005Y | Practicum Internship |

*Elective Courses*

The two electives are selected from course offerings in the Departments of Curriculum, Teaching and Learning and/or Human Development and Applied Psychology. Choice of electives is contingent upon the approval of the student's faculty advisor.

| | |
|---|---|
| CTL 7000Y | Curriculum and Teaching/*Staff* |
| CTL 7001H | Collaboration, Curriculum, Community and Teaching/*Staff* |
| HDP 7002H | Ethical, Legal, and Professional Issues in Education/*Staff* |
| CTL 7003H | Conceptual Basis for Methods of Teaching in Primary/Junior or Junior/Intermediate Classrooms/*Staff* |
| HDP 7004Y | Practicum in Schools/*Staff* |
| HDP 7005Y | Practicum Internship/*Staff* |

**5 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.

***Degree of Master of Education***

Candidates 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 completed with an academic standing equivalent to a University of Toronto mid-B or better in the final year. Candidates with an appropriate three-year University of Toronto bachelor's degree or its equivalent may also be accepted. Ordinarily, applicants will have at least one year of relevant successful professional experience prior to applying.

The M.Ed. program consists of eight half-courses plus a research project; one of the courses must be either CTL 3000H or CTL 3002Y. Students must take a minimum of four half-courses within the SLE program; other courses may be taken from other programs in the Department of Curriculum, Teaching, and Learning; other Departments at OISE/UT; in the Departments of Linguistics or Anthropology; or in language departments at the University of Toronto. The M.Ed. program may be taken on a full or part-time basis. Additional study may be required either within the degree program or prior to admission. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Master of Arts***

Candidates are accepted under the general regulations. Admission normally requires a four-year University of Toronto Bachelor's degree, or its equivalent, in a relevant discipline or professional program, completed with 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. Enrolment in the M.A. (rather than M.Ed.) program is advisable for applicants expecting to pursue a doctorate in the future.

The M.A. program may be undertaken on a full-time or part-time basis and consists of eight half-courses and a thesis. Courses must include CTL 3001H plus a course in research methods relevant to the topic of the thesis. Any of the following courses can fulfill this requirement: CTL 1018H, CTL 1306H, CTL 1804H, CTL 2004H, CTL 2007H, CTL 2008H, CTL 2808H, CTL 3019H, CTL 3800H, CTL 3802H, CTL 3803H, CTL 3807H, CTL 4005H, CTL 4802H or CTL 4805H. Students wishing to propose an alternative course to fulfill 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. Additional courses may be required of some applicants. All requirements for the degree must be completed within five calendar years from first enrolment.

***Degree of Doctor of Education***

The Ed.D. is intended for individuals who have already established a professional career in Second Language Education and wish to make aspects of their professional practice the subject of their graduate studies and thesis research. Candidates are accepted under the general regulations. A University of Toronto master's degree, or its equivalent from a recognized university completed with an average grade equivalent to a University of Toronto B+ or better is required. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission. Ordinarily, applicants will have a minimum of three years relevant professional experience prior to applying.

The Ed.D. ordinarily involves eight half-courses (depending on previous experience and academic qualifications) plus comprehensive exams. A thesis, embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis are also required. One course must be CTL 3801H and another a research methods course relevant to the topic of the thesis. Any of the following courses can fulfill this requirement: CTL 1018H, CTL 1306H, CTL 1804H, CTL 2004H, CTL 2007H, CTL 2008H, CTL 2808H, CTL 3019H, CTL 3800H, CTL 3802H, CTL 3803H, CTL 3807H, CTL 4005H, CTL 4802H or CTL 4805H. Students wishing to propose an alternative course to fulfill 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.

The Ed.D. requires two consecutive terms (i.e., one academic year) of full-time study at some point during the program. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Doctor of Philosophy***

Individuals pursuing the Ph.D. typically desire to be university professors in this field. Candidates are accepted under the general regulations. A University of Toronto master's degree, or its equivalent from a recognized university completed with an average grade equivalent to a University of Toronto B+ or better is required. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission. Ordinarily, applicants will have a minimum of two years relevant professional experience prior to applying.

The Ph.D. involves six to eight half-courses (depending on previous experience and academic qualifications) plus comprehensive exams. A thesis, embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis are also required. One course must be CTL 3801H and another a research methods course relevant to the topic of the thesis. Any of the following courses can fulfill this requirement: CTL 1018H, CTL 1306H, CTL 1804H, CTL 2004H, CTL 2007H, CTL 2008H, CTL 2808H, CTL 3019H, CTL 3800H, CTL 3802H, CTL 3803H, CTL 3807H, CTL 4005, CTL 4802H or CTL 4805H. Students wishing to propose an alternative course to fulfill 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. Two consecutive sessions (i.e., two academic years) of full-time study are required at the beginning of the program during which time students usually complete course requirements, pass the comprehensive exam, prepare a thesis proposal, and form a thesis committee. All requirements for the degree must be completed within six calendar years of first enrolment.

***Courses of Instruction***

Not all courses are offered every year. Please consult the Department for course offerings.

| | |
|---|---|
| JHC 1251H | Reading in a Second Language/ *E. Geva* |
| JTE 1952H | Language Culture and Education/ *M. Heller* |
| JTE 2912H | Teachers' Work: Classrooms, Careers, Cultures and Change/ *S. Acker* |
| CTL 3000H | Foundations of Bilingual and Multicultural Education/*Staff* |
| CTL 3001H | Research Colloquium in Second Language Education: Master's Level/*S. Lapkin, M. K. Swain* |

CTL 3002Y Methodology and Organization of Second-Language Teaching/ *A. Cumming, B. Harley, or Staff*
CTL 3003H Theory of Second-Language Teaching/*Staff*
CTL 3004H Language Awareness and its Role in Teacher Development/*J. P. B. Allen*
CTL 3005H Current Issues in English as a Second Language/*J. P. B. Allen*
CTL 3006H Descriptive and Educational Linguistics of English/*J. P. B. Allen*
CTL 3007H Seminar in Language and Communication/*J. P. B. Allen*
CTL 3007H Séminaire sur le langage et la communication/*N. Labrie*
CTL 3008H Critical Pedagogy, Language, and Cultural Diversity/*J. P. Cummins*
CTL 3009H Education for Linguistic and Cultural Minorities: Comparative Policy Analysis/*S. Churchill*
CTL 3009H L'éducation des minorités linguistiques et culturelles : l'analyse comparative de la politique éducative/*S. Churchill*
CTL 3010H Second-Language Learning/*B. Harley*
CTL 3011H Bilingual Education and Bilingualism/*J. P. Cummins*
CTL 3011H Bilinguisme et éducation/ *D. Haché ou membre de la faculté à déterminer*
CTL 3012H Communicative Competence/*N. Labrie*
CTL 3013H Second Language Assessment/ *A. Cumming or S. Lapkin*
CTL 3014H Collaborative Learning in Second-Language Classrooms/*M. K. Swain*
CTL 3015H Seminar in Second-Language Literacy Education/*B. Burnaby, A. Cumming, J. Cummins*
CTL 3016H Minority Groups and Cultural Determinants of the Curriculum/ *S. Churchill*
CTL 3018H Language Planning and Policy/ *N. Labrie*
CTL 3018H Politique et aménagement linguistique/*N. Labrie*
CTL 3019H Research Themes in Canadian French as a Second Language Education/*S. Lapkin*
CTL 3020H Writing in a Second Language/ *A. Cumming or S. Lapkin*
CTL 3021H Pedagogical Grammar of French/ *S. Lapkin*
CTL 3022H Language in Aboriginal Education in Canada/*Staff*
CTL 3023H Le francais canadien d'un point de vue sociolinguistic et éducatif
CTL 3797H Practicum Second Language Education: Master's Level/*Staff*
CTL 3798H Individual Reading and Research in Second Language Education: Master's Level /*Staff*
CTL 3799H Special Topics Second Language Education: Master's Level/*Staff*
CTL 3800H Second Language Classroom Research/*M. K. Swain*
CTL 3801H Research Colloquium in Second Language Education: Doctoral Level/*M. K. Swain, S. Lapkin*
CTL 3802H Research Seminar in Multilingual/ Multicultural Education/*J. P. Cummins*
CTL 3803H Ethnographic Research in the Language Disciplines/*Staff*
CTL 3804H Advanced Colloquium in the Educational Linguistics of English/*J. P. B. Allen*
CTL 3805H Aspects of Second-Language Acquisition/*N. Spada*
CTL 3806H Sociocultural Theory and Second Language Learning/*M. K. Swain*
CTL 3807H Processing Second Language Data/*A. Cumming*
CTL 3997H Practicum Second Language: Doctoral Level/*Staff*
CTL 3998H Individual Reading and Research in Second Language: Doctoral Level/*Staff*
CTL 3999H Special Topics in Second Language Program: Doctoral Level/*Staff*

**6 Teacher Development Program**

Teacher development as a field of educational study encompasses the development of teachers throughout their careers. The four degree programs (M.Ed., M.A., Ed.D., Ph.D.) are governed by the central idea that teaching is an act of inquiry and that teachers are inquirers and learners.

The program involves knowledge in the areas of

**a** Reflection, Inquiry and Practice;
**b** Improvement of Practice; and
**c** Teacher Cultural Self-Identity Formation.

These three areas form the foundation of the field and represent distinct but complementary lines of research. The program involves experience of and knowledge in these areas, which form the foundation of the field and contribute to research in teacher specialization, socialization and professionalization, policy and evaluation, and the social and political context of teacher education. Qualitative, narrative, arts-

based inquiry and action research methodologies are applied to these focus areas.

***Degree of Master of Education***

This degree is designed for practicing educators who wish to apply knowledge and skills in teacher development to the improvement of educational practice. Candidates 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 completed with an academic standing equivalent to a University of Toronto mid-B or better in the final year. Candidates with an appropriate three-year University of Toronto bachelor's degree or its equivalent may also be accepted. One year of professional education for teaching, or the equivalent in pedagogical content, is recommended. Ordinarily, applicants will have at least one year of relevant successful professional experience prior to applying. Since the Teacher Development Program focuses on teaching in general, professional experience in education can include teaching in other areas (e.g., nursing).

The M.Ed. program consists of eight half-courses plus a major research project (MRP), and may be taken on a full or part-time basis. Additional study may be required either within the degree program or prior to admission. All requirements for the degree must be completed within six calendar years of first enrolment.

***Degree of Master of Arts***

This degree is designed to provide academic study and research training related to teacher development. Candidates are accepted under the general regulations. Admission normally requires a four-year University of Toronto bachelor's degree, or its equivalent, in a relevant discipline or professional program, completed with standing equivalent to a University of Toronto mid-B or better in the final year. Candidates with an appropriate three-year University of Toronto bachelor's degree or its equivalent may also be accepted. Ordinarily, applicants will have at least one year of relevant successful professional experience prior to applying. Since the Teacher Development Program focuses on teaching in general, professional experience in education can include teaching in other areas (e.g., nursing). Applicants who anticipate further study at the Ph.D. level are advised to apply for enrolment in an M.A. program rather than an M.Ed. program.

The M.A. program may be undertaken on a full-time or part-time basis and consists of eight half-courses and a thesis. Additional courses may be required of some applicants. All requirements for the degree must be completed within five calendar years of first enrolment.

***Degree of Doctor of Education***

Candidates are accepted under the general regulations. A University of Toronto M.Ed. or M.A. in education, or its equivalent from a recognized university, in the same area of specialization proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Further documentation may be required to establish equivalence. Applicants will ordinarily have a minimum of three years professional experience in education prior to applying. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ed.D. program normally consists of eight half-courses, four of which must be undertaken in the program. Additional courses may be required of some candidates, depending on previous experience and academic qualifications. Students must successfully complete 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 are also required. The Ed.D. program includes one year of full-time study, but may be initiated on a full-time or part-time basis. All requirements for the degree must be completed within six calendar years from first enrolment.

***Degree of Doctor of Philosophy***

Candidates are admitted under the general regulations. A University of Toronto master's degree in education, or its equivalent from a recognized university, in the same area of specialization as proposed at the doctoral level, completed with an average grade equivalent to a University of Toronto B+ or better is required. Further documentation may be required to establish equivalence. Applicants will ordinarily have a minimum of two years professional experience prior to applying. Admission is contingent upon satisfactory completion of a Qualifying Research Paper (QRP) or a master's thesis. A candidate's admission will be confirmed only when the QRP or master's thesis is judged to be of sufficiently high quality to warrant admission.

The Ph.D. program normally consists of six half-courses, four of which must be undertaken in the program. Additional courses may be required of some candidates depending on previ-

ous experience and academic qualifications. Students must successfully complete a comprehensive examination. In addition, a thesis embodying the results of an original investigation, and a final oral examination on the content and implications of the thesis are required. The Ph.D. program must be initiated on a full-time basis and requires two years of consecutive full-time study. All requirements for the degree must be completed within six calendar years of first enrolment.

***Courses of Instruction***

Not all courses are offered every year. Please consult the Department for course offerings.

CTL 4000H Techniques for Improving Teaching/*B. S. Kilbourn*
CTL 4001H Facilitating Reflective Professional Development/*L. M. Hannay*
CTL 4002H Constructive Feedback in Teaching/*B. S. Kilbourn*
CTL 4003H Teacher Development and School Improvement/*C. T. P. Diamond*
CTL 4004H From Student to Teacher: Professional Induction/*M. Kooy*
CTL 4005H Perspectives in Teacher Education/*C. T. P. Diamond*
CTL 4006H Text, Values, and Teacher Development/*Staff*
CTL 4007H Language, Culture, and Identity: Using the Literary Text in Teacher Development/ *G. Feuerverger*
CTL 4008H Knowing and Teaching/*B. S. Kilbourn*
CTL 4009H Multicultural Perspectives in Teacher Development: Reflective Practicum/ *G. Feuerverger*
CTL 4010H Action Research in Language and Learning/*Staff*
CTL 4011H Teaching and School Renewal/ *Staff*
CTL 4012H Thoughtful Teaching and Practitioner Inquiry/*C. Beck*
CTL 4013H Teacher Development: Comparative and Cross Cultural Perspectives/*M. Connelly, J. Farrell*
CTL 4797H Practicum in Teacher Development: Master's Level/ *Staff*
CTL 4798H Individual Reading and Research in Teacher Development: Master's Level /*Staff*
CTL 4799H Special Topics in Teacher Development Program: Master's Level/*Staff*
CTL 4800H Seminar: Current Problems in Teacher Development and Curriculum Studies/*C. T. P. Diamond, Staff*
CTL 4801H Narrative and Story in Research and Professional Practice/ *C. Conle*
CTL 4802H Doctoral Seminar in Qualitative Research on Teaching/*B. S. Kilbourn*
CTL 4803Y Women as Change Agents in Educational Systems/*Staff*
CTL 4804H Alternative Theoretical Perspectives in the Study of Curriculum Practice and Teacher Development/*C. T. P. Diamond or Staff*
CTL 4805H Research and Inquiry in Teacher Education/*C. T. P. Diamond*
CTL 4997H Practicum in Teacher Development: Doctoral Level/ *Staff*
CTL 4998H Individual Reading and Research in Teacher Development: Doctoral Level/*Staff*
CTL 4999H Special Topics in Teacher Development Program: Doctoral Level/*Staff*

**Collaborative Programs**

***Comparative, International and Development Education***

The Departments of Curriculum, Teaching and Learning; Adult Education, Community Development and Counselling Psychology; Sociology and Equity Studies in Education; and Theory and Policy Studies in Education jointly offer graduate degree programs (M.Ed., M.A., Ed.D., Ph.D.) in Comparative, International and Development Education. Additional information is available in the "Collaborative Graduate Degree Programs" section of the *OISE/UT Bulletin*, and the Comparative, International and Development Education entry in this calendar. Interested students should forward an application to both the OISE/UT department(s) of their choice, and the CIDE Program Coordinator. Prospective applicants are strongly advised to contact the CIDE Program Coordinator before submitting their application; information is also available from the CTL Graduate Studies Liaison.

The following courses are offered by the Department of Curriculum, Teaching and Learning within the Comparative, International and Development Education Collaborative Program. Not all courses listed are offered in a given year. Students should also check course listings under the other collaborating departments.

***Courses of Instruction***

CTL 6000H Introduction to Comparative, International, and Development Education/*J. P. Farrell, D. W. Livingstone*

CTL 6001H The Planning, Implementation, and Evaluation of Occupational Training Institutions and Programs/*D. N. Wilson or Staff*

CTL 6002H Education and Social Development/*J. P. Farrell or Staff*

CTL 6003H Comparative Education: The Development of Third World Educational Systems/*D. N. Wilson or Staff*

CTL 6797H Practicum in Comparative, International, and Development Education Program: Master's Level/Staff

CTL 6798H Individual Reading and Research in Comparative, International, and Development Education Program: Master's Level/*Staff*

CTL 6799H Special Topics in Comparative, International, and Development Education Program: Master's Level/*Staff*

CTL 6800H Controversial Issues in Development Education/*D. N. Wilson or Staff*

CTL 6801H Methodologies for Comparing Educational Systems/*Staff*

CTL 6997H Practicum in Comparative, International, and Development Education Program: Doctoral Level/*Staff*

CTL 6998H Individual Reading and Research in Comparative, International, and Development Education Program: Doctoral Level/*Staff*

CTL 6999H Special Topics in Comparative, International, and Development Education Program: Doctoral Level/*Staff*

***Environmental Studies***

The Departments of Curriculum, Teaching and Learning; Adult Education, Community Development and Counselling Psychology; and Sociology and Equity Studies in Education jointly offer graduate degree programs (M.Ed., M.A., Ed.D., Ph.D.) in collaboration with the Institute of Environmental Studies. Interested students should apply to both an OISE/UT department and the Institute of Environmental Studies (IES). Further information is also available from the IES entry in this calendar, the CTL Graduate Studies Liaison, and the IES Graduate Student Advisor.

***Women's Studies***

The Departments of Curriculum, Teaching and Learning; Sociology and Equity Studies in Education; and Theory and Policy Studies in Education participate in the Women's Studies Collaborative Program (M.Ed., M.A., Ed.D, Ph.D.). Interested students should forward an application to both an OISE/UT department and the Program Director of Graduate Women's Studies. All programs of study should be planned in consultation with program advisors in the CTL Department, and with the GWS Coordinator of Graduate Studies. Further information is available in the Women's Studies entry in this calendar; also contact the CTL Graduate Studies Liaison and the GWS Program Director.

# Dentistry DEN

## Graduate Faculty

### Full Members

J. E. Aubin, BSc, PhD
R. F. J. Casper, MD, FRCSC
D. S. Cvitkovitch, BSc, MSc, PhD, Canada Research Chair
J. E. Davies, BSc, PhD, BDS, DSc
D. A. Deporter, DDS, PhD, DipPerio
O. M. El-Mowafy, BDS, PhD, FADM
R. P. Ellen, DDS, CertPerio, CertOralMed&Microbio ***(Chair)***
E. D. Fillery, BSc, PhD
M. D. Grynpas, MSc, PhD
J. N. M. Heersche, BSc, PhD
J. W. Hu, BSc, MA, PhD
D. J. Kenny, BSc, DDS, DipPaedo, PhD
J. L. Leake, MSc, DDS, DDPH, FRCD(C)
B. Liebgott, DDS, MScD, PhD
H. Limeback, BSc, DDS, PhD
D. Locker, BDS, PhD
M. F. Manolson, BS, PhD
J. T. Mayhall, BA, MA, DDS, PhD
C. A. G. McCulloch, BSc, DDS, PhD, FRCD(C)
D. Mock, DDS, PhD, FRCD(C)
R. M. Pilliar, BASc, PhD, PEng
J. P. Santerre, BSc, MScEng, PhD
B. J. Sessle, BDS, BSc, MSD, PhD, FRSC, Canada Research Chair
A. Seth, BSc, MSc, PhD
J. Sodek, BSc, PhD
H. C. Tenenbaum, DDS, DipPerio, PhD, FRCD(C)
X.-M. Yu, MD, MSc, DScH
G. A. Zarb, BCHD, MSc, DDS, MSc, FRCD(C)

### Members Emeriti

A. Bennick, MSc, DDS, PhD, DipPerio
R. C. Burgess, BSc, MSc, DDS
D. W. Lewis, DDS, DDPH, MScD, FRCD(C)
R. B. Ross, DDS, MScD, DipOrthodont, FRCD(C)
D. G. Woodside, BSc, DDS, MScD, PhD, FRCD(C)

### Associate Members

J. D. Anderson, BSc, DDS, MScD
G. I. Baker, DDS, MS, FRCD(C), FICD
I. Barzilay, DDS, CertProstho, MS
G. C. Bradley, MSc, DDS, FRCD
L. L. Burrows, BSc, PhD
M. F. Caminiti, BSc, DDS, DipOral&Maxillo, MEd, FRCD(C)
M. J. Casas, DDS, DipPaedo, MSc
S. Cheifetz, PhD
C. M. L. Clokie, DDS, DipOral&MaxillofacialSurg, PhD, DipABOMS
T. T. Dao, MSc, DMD, DipProstho, PhD
A. H. Fenton, MS, DDS, DipProstho, FRCD(C)
S. Friedman, DMD
B. Ganss, BSc, MSC, PhD
D. A. Haas, BSc, BScD, DDS, PhD, FADSA, FRCD(C)
D. H. Johnston, DDS, BSc, MSc, DipPaedo
P. L. Judd, BSc, DDS, DipPaedo, MSc
G. V. Kulkarni, BDS, LLB, MSc, DipPaedo, PhD
H. P. Lawrence, DDS,CertifRestorDentistry, CertifPlanningSystems&ServDentCare, MSc, PhD
G. Lépine, BSc, MSc, PhD
P. A. Main, BDS, DDS, DDPH, MSc, FRCD(C)
D. Matear, BMSc, BDS, DDPH, RCS, MSc
D. McComb, BDS, MScD, FRCD(C)
R. J. McComb, BDS, MSc, FRCD(C), DipABOP
A. Metaxas, DDS, DipOrtho, MSc, DDent
C. G. Petrikowski, DDS, DipOralRad, MSc, FRCD(C)
M. J. Pharoah, BSc, DDS, MSc, DipOralRad, FRCD(C)
G. K. B. Sàndor, DDS, MD, FRCDS, FACS, DipABOMS
M. J. Sigal, DDS, MSc, DipPaedo, FRCD(C)
L. E. Tam, DDS, MSc
K. C. Titley, BDS, LDS, RCS, DipPaedo, FRCD(C), MScD
L. S. Tjäderhane, DDS, PhD, SpecClinDent
B. D. Tompson, DDS, DipPaedodont, DipOrthodont
P. A. Watson, DDS, MScD
R. E. Wood, DDS, MSc, DipOralRad, PhD, FRCD(C)
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### Degree of Master of Science

Candidates shall hold the degree of Bachelor of Science, or an equivalent degree, with at least mid-B standing from a recognized university in a discipline appropriate to the field of dentistry. The program will ordinarily require 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. The first year of the program will include establishment of a research project and course work, and the second year will be devoted largely to research and completion of thesis defence. Course work will normally include as a minimum the fulfillment of requirements for the obligatory course DEN 1001Y°

*Master's Seminars in Oral Health Sciences* and successful completion of an additional half-course. Exemptions may be granted for previously completed course work at the bachelor's level.

In addition, the Department offers a Master of Science degree for dental graduates seeking advanced training in a clinical specialty as well as training in research. Exceptional applicants seeking advanced training in a clinical specialty as well as training in research at the Ph.D. level, will be considered on an individual basis. The purpose of this program is to train clinician/scientists who aspire to teaching and research careers in the dental field. The program entails completion of the M.Sc./Ph.D. together with the clinical and didactic courses for the appropriate clinical specialty. The addition of the clinical and didactic courses for a clinical specialty will normally increase the amount of time to complete the M.Sc./Ph.D. degrees by one to two years, depending upon the particular clinical specialty. Upon completion, students are eligible for the graduate degree, and for Specialty, Fellowship, or Board Certification in one of the dental specialties. For further particulars, please consult the *Faculty of Dentistry Calendar* or Web site.

## Degree of Doctor of Philosophy

### *Full-Time Program*

Candidates are normally admitted to a four-year Ph.D. 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 candidate with an appropriate bachelor's degree with at least an A standing from a recognized university in a discipline appropriate to the field of dentistry.

Candidates undertake customized programs, approved by the advisory committee and the graduate chair of Dentistry, comprising advanced study and research. Although the minimum residency requirement is one year, it is the Department's expectation that students will normally remain on campus for four years. Minimum course requirements include fulfillment of requirements for the course DEN 1100Y° *Doctoral Seminars in Oral Health Sciences*, plus one additional full course. Exemptions may be granted for M.Sc. course work from closely related disciplines. This includes students transferring from M.Sc. to Ph.D. programs. Programs of study for B.Sc. students will normally include additional course-work requirements.

After 12 months and within 18 months of starting a Ph.D. program, candidates 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.

In all cases candidates for graduate degrees will 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.

### *Flexible-Time Program*

The Department offers a flexible-time Ph.D. program for selected students whose career goal is a full-time academic position in a clinical discipline. Candidates concurrently establish their teaching and academic credentials. The major goal upon program completion is to enable candidates to compete for university tenure-stream professorial positions in their clinical science discipline. Students in this program will be guaranteed funding at the Faculty's minimum doctoral stream level for years one to four of the program.

The program, which is dedicated to research experience, does not involve clinical training other than clinical research methodology, and entails completion of the research and course work requirements for the Ph.D. degree half time, while teaching in a clinical discipline half time.

Applicants must meet all School of Graduate Studies and Graduate Department of Dentistry admission requirements for entry to the Ph.D. program. In addition, applicants must have attained a professional degree equivalent to the University of Toronto D.D.S. and a graduate degree equivalent to the University of Toronto M.Sc. Preference is given to:

**1** 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

**2** applicants who hold a University appointment in Canada at an academic standard equivalent to the University of Toronto Lecturer.

Appropriate research supervision and advisory committee membership, customized plan

°Courses which may continue over a program. The course is graded when completed.

of study, and timetable for the completion of the degree requirements, as approved by the Associate Dean of Graduate/Postgraduate Studies, will be in place at program commencement. The Chair and Coordinator of Graduate Studies monitor 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 Ph.D. is one year, the anticipated completion date for the flexible-time Ph.D. program will be within five to six years from the registration date. The maximum time for completion will normally be eight years.

Candidates are required to:

**1** complete minimum course work requirements (to include DEN 1100Y° *Doctoral Seminars in Oral Health Sciences*, plus one additional full course);
**2** prepare for the qualifying oral examination;
**3** participate in all graduate research activities of the advisor's research group;
**4** conduct research leading to completion of the thesis;
**5** present at meetings and publish original research findings in timely fashion; and
**6** participate as members of departmental and student committees as applicable.

**Courses of Instruction**

The Department should be consulted each term as to course offerings.

DEN 1001Y° and DEN 1100Y°, designed to enhance critical analysis and presentation skills, involve seminars on faculty and student research, critiques on student presentations, and participation in Research Day. These seminars are required as part of the program for all M.Sc. and Ph.D. students.

DEN 1001Y° Master's Seminars in Oral Health Sciences (CR/NCR)
DEN 1002H Oral Pathology/*G. Bradley, Staff*
DEN 1003H Preventive Dentistry/*H. Limeback, Staff*
DEN 1006Y Seminars in Dental Public Health/*J. Leake, Staff*
DEN 1007H Oral Radiology/*M. J. Pharoah, Staff*
DEN 1011Y° Advanced Seminars in Oral Pathology/*R. J. McComb, Staff*
DEN 1012Y° Oral Medicine/*D. Mock, Staff*
DEN 1013Y° Oral Surgical Pathology/*R. J. McComb, Staff*
DEN 1016H Occlusion: Function and Dysfunction/*B. J. Sessle, G. A. Zarb, Staff*
DEN 1017H Temporomandibular Disorders/*G. A. Zarb, T. T. Dao, Staff*
DEN 1022H Investigating pathogenic Biofilms/*R. P. Ellen, Staff*
DEN 1024H Experimental Methods in Caries Research/*R. C. Burgess, Staff*
DEN 1030H Critical Appraisal and Evidence-Based Care/*J. Leake, Staff*
DEN 1040Y Dental Clinical Epidemiology and Biostatistics/*Staff*
DEN 1060H Oral Physiology: Sensory and Neuromuscular Function/*B. J. Sessle*
DEN 1070H Advances in Dental Materials Science/*P. Santerre, Staff*
DEN 1080Y Biology of Connective Tissues/*C. A. G. McCulloch, H. C. Tenenbaum*
DEN 1081H Bone Interfacing Implants/*J. E. Davies, Staff*
DEN 1082H Biomaterials for Implant Treatment in Dentistry/*P. A. Watson, Staff*
DEN 1084Y Growth and Development of Head and Neck/*P. E. Rossouw, Staff*
DEN 1097Y Advanced Oral Radiology/*M. J. Pharoah, Staff*
DEN 1098H Reading Course in Oral Biology/*Staff*
DEN 1100Y° Doctoral Seminars in Oral Health Sciences (CR/NCR)/*Staff*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

# Design and Manufacturing

**Program Committee**
The committee 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 Representatives:
A. N. Sinclair, BASc, MSE, PhD, PEng/Mechanical & Industrial Engineering
H. F. Kolodny, BEng, MBA, DBA, PEng/Management

***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

*Telephone:* (416) 978-2922
*Fax:* (416) 978-3453
*E-mail:* admi@mie.utoronto.ca

***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, 4 Taddle Creek Road

***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

*Telephone:* (905) 855-9787
*Fax:* (905) 855-2199
*E-mail:* info@admicanada.com
*Web:* www.admicanada.com

**Introduction**
The Advanced Design and Manufacturing Institute (ADMI) is a joint program in design and manufacturing at the masters' level. It is offered through the joint efforts of four Ontario universities: University of Toronto, McMaster University, the University of Waterloo, and the University of Western Ontario.

Within the University of Toronto the degree designation is M.Eng.D.M. This joint program is fully described on the Web site, www.admicanada.com, and has been 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. The program is conveniently accessed in compressed time frames of two four-day weekend modules for each course offering. This allows practising engineers to continue with their professional employment while working toward the M.Eng.D.M. degree. Courses are offered throughout the year and the schedule is updated on the Web site. The joint nature of the program ensures that the very best expertise available at each of the participating schools is integrated into the various course offerings.

The ADMI vision is to create a new generation of Canadian design and manufacturing engineers with the ability and mindset to propel Ontario industry into a world leadership position. The collective resources of partner universities and industry are leveraged to provide participants with access to an integrated program of world class technology, expertise, and experience.

ADMI is the creative result of innovative thinking and leadership from the engineering schools at McMaster University, the University of Toronto, the University of Waterloo, and the University of Western Ontario; the Schools of Business at McMaster University and the University of Toronto; and the Department of Management Sciences at the University of Waterloo. The program has the enthusiastic endorsement of Materials & Manufacturing Ontario and Ontario Industry.

**Admission Requirements**
Candidates entering the program at the University of Toronto are required to register in the Department of Mechanical and Industrial Engineering. Candidates must have successfully completed a 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. Additionally, all individuals seeking admission into this program will normally have three years of post-baccalaureate experience in industry or the equivalent. Preliminary electronic application forms are available on the Web site, www.admicanada.com.

**Program Requirements**
The program requires the successful completion of 10 ADMI course offerings. A list of course offerings, along with course descriptions and a current schedule, is available on the ADMI Web site, www.admicanada.com. Two of the required 10 courses may be replaced by an approved industry project, with University supervision. Irrespective of whether a project is undertaken, a program participant is 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. Individuals must complete a minimum of two ADMI courses per calendar year to maintain program registration status.

**Part-time Nature of Program**
The program is designed as a part-time program for individuals who wish 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 also offered throughout the year and do not conform to the regular university semester structures.

**Fee Structure**
The program is offered as a full cost recovery program. The fee per course is $2,500, which must be paid in advance of each course taken by the participant.

**Courses of Instruction**
A list of course offerings, along with course descriptions and a current schedule, is available on the ADMI Web site, www.admicanada.com.

# Developmental Biology (Collaborative Program)

**Program Committee**

G. L. Boulianne, BSc, PhD/Molecular & Medical Genetics
N. G. Dengler, BA, MS, PhD/Botany
H. D. Lipshitz, BSc, MPhil, PhD/Molecular & Medical Genetics
A. M. Spence, BSc, PhD/Molecular & Medical Genetics ***(Coordinator)***
D. van der Kooy, BSc, MSc, PhD/Anatomy & Cell Biology
R. Winklbauer, DipBiol, PhD/Zoology

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**Nature of the Collaborative Program**

The graduate departments of Biochemistry, Botany, Molecular and Medical Genetics, Physiology, and Zoology participate in the Collaborative Program in Developmental Biology. This is a Ph.D. program only. 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. Upon successful completion of the Ph.D. requirements of the host department and the program, students receive the notation "Completed Program in Developmental Biology" on their transcript.

**Program Requirements**

Students must complete a Ph.D. thesis and any core courses as required by their host department. In addition, they must complete the interdepartmental course JDB 1025Y and the seminar course JDB 1026Y. These courses may be taken in place of some host department courses. Prospective students should contact the coordinator for more details on admission procedures and course requirements.

**Courses of Instruction**

The following courses are offered by the program every year.

| | |
|---|---|
| JDB 1025Y | Developmental Biology |
| JDB 1026Y | Student Seminars in Developmental Biology |

# Drama DRA

## Graduate Faculty

### Full Members

V. Ambros, BA, MA, PhD/Slavic
E. K. Armatage, BA, MA, PhD/Drama
J. H. Astington, BA, MA, PhD/English
G. Bisztray, PhD/Slavic
N. Copeland, BA, MA, PhD/Drama
B. Corman, AB, AM, PhD/English
D. de Kerckhove, BA, MA, PhD, Dip 3ème Cycle, FRSC/French
A. H. de Quehen, BA, PhD/English
K. Eisenbichler, BA, MA, PhD/Italian Studies
J. N. Grant, BA, MA, PhD/Classics
S. B. Johnson, BA, MA, PhD/Drama
A. F. Johnston, MA, PhD, LLD, DD, FRSC/English
C. Keil, BA, MA, PhD/History
D. N. Klausner, AB, PhD/Medieval Studies
P. Kleber, BA, MA, PhD/Comparative Literature
R. Knowles, MA, PhD/Drama
A. C. Lancashire, BA, AM, PhD/English
D. I. Lancashire, BA, MA, PhD/English
R. W. Leckie, BA, PhD/German
A. M. Leggatt, BA, MA, PhD/English
J. L. Levenson, BA, MA, PhD/English
R. Lindheim, BA, MA/Slavic
M. O'Neill-Karch, MA/French
M. A. Parker, BA, MM, PhD, ARCT/Music
A. Percival, BA, MA, PhD/Spanish
D. Pietropaolo, BSc, MA, PhD/Italian Studies
R. Plant, BA, MA, PhD/Drama
S. J. Rupp, BA, MA, MPhil, PhD/Spanish
G. Sanguinetti-Katz, DLett, MA, PhD/Italian Studies
P. Sperdakos, BA, MA, PhD/Drama
T. Trojanowska, BA, MA, PhD/Slavic
D. A. Trott, BA, MA, PhD/French
J. A. Wilkinson, BA, BEd, MA, PhD/Drama

### Members Emeriti

M. J. Sidnell, BA, MA, PhD/English

### Associate Members

A. Ackerman, BA, MA, PhD
B. Barton, PhD
N. S. Fisher-Stitt, BA, MFA, EdD
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L. Katz, BA, PhD
A. Most, BA, PhD
S. Odom, PhD
B. W. Testa, BA, MA
M. J. Warner, PhD

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The programs leading to the M.A. and Ph.D. comprise courses given within the Centre and drama courses offered by other graduate departments of the University. We assume that students will be building on the kind of foundation which would normally be laid in four years of undergraduate study with a concentration in dramatic literature. The intent of the programs is to further the academic study of theatre and drama at an advanced level in the program fields of theatre history, theory of drama, and dramaturgy. Within the parameters of these fields, the Centre supports research in such areas as the theory and analysis of performance, feminist theatre theory and practice, Canadian drama, and post-colonial theatre. 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 with professional companies at the Robert Gill and Studio theatres.

The Centre also participates in the Collaborative Graduate Program in Women's Studies which offers both M.A. and Ph.D programs. Please consult the program's entry in this calendar for details.

Application forms and all information necessary for application is available from the Centre's Web site at gradrama.sa.utoronto.ca. Applications received after February 1 may be too late for consideration for the Centre's first round of offers. Contact the Graduate Coordinator concerning deadlines and delays at gradcoord.graddrama@utoronto.ca

### Admission Requirements

Applicants for admission to the Centre are considered under the general regulations if they meet the Centre's own requirements as stated below. Admissions are selective, and possession of minimum qualifications does not guarantee acceptance.

#### *Degree of Master of Arts*

**1** For admission to the M.A. program, applicants must meet the following standard, or its equivalent from a recognized university: the

B.A. of this University, with at least a B+ standing, comprising four years of undergraduate study, with a significant concentration in drama.
**2** Normally the M.A. program requires one year of full-time study or the part-time equivalent. In some cases, candidates may be admitted to a two-year M.A. program, with additional course requirements. The Centre may prescribe certain courses in the individual programs of M.A. candidates.

***Degree of Doctor of Philosophy***
**1** Applicants for admission to the Ph.D. program must fulfill the requirements for the M.A. in the Centre, or the equivalent from a recognized university, with at least an A- average standing. Applicants who have taken the M.A. through the Centre must be recommended for further study by the instructors whose courses they have taken. Applicants holding the M.A. of this University in a subject other than drama, or the equivalent from another university, will be considered for admission to the Ph.D. program in the light of their previous work and its relation to the Centre's requirements; additional course work may be required.
**2** Exceptional students may be admitted directly to the Ph.D. program from the B.A. with a minimum A-minus overall average. The Centre will be especially interested in final grades for upper level courses. Such applicants will apply to the M.A. program, but indicate in a separate letter to the Drama Centre that they wish to be considered for direct admission to the Ph.D. program. If accepted, students from the B.A. level will be expected to complete four courses in addition to the Ph.D. requirements listed below, including DRA1000Y *History of the Theatre* (for a total of seven), and satisfy the Centre's practical requirements for the theatre as determined on admission. Students accepted from the B.A. will be expected to maintain an A- average in their first four full courses in order to continue in the program. Students may elect to transfer to the M.A. after the first year of study. Work completed in the Ph.D. program will be credited towards the M.A.
**3** Applicants must arrange to send two supporting letters of recommendation to the Graduate Coordinator of the Centre. Admission will be conditional upon satisfactory recommendation.
**4** Applications must be accompanied by a statement of intent.

**Degree Requirements**
In addition to fulfilling the general requirements of the School of Graduate Studies, degree candidates at the Drama Centre must qualify in the manner stated below.

***Degree of Master of Arts***
Candidates are required:
**1** to complete at least four approved graduate courses, including DRA 1000Y *History of the Theatre*, and at least one half-course in the dramatic literature of a non-English-speaking culture;
**2** to spend at least one Winter Session or twelve months in full-time study, or the equivalent in part-time work;
**3** to satisfy the Centre's requirements of practical work in the theatre.

***Degree of Doctor of Philosophy***
Candidates admitted on the basis of an M.A. in Drama or the equivalent are required:
**1** to complete three approved courses by the end of the first year, in addition to the courses required for the M.A., with an average standing of at least B+ . The combined M.A. and Ph.D. courses must include DRA 1000Y *History of the Theatre*, DRA 1010Y *Theory of Drama*, and DRA 1021H *Dramaturgy*, and must be chosen from more than one dramatic literature;
**2** to demonstrate reading knowledge of a language other than English by passing an approved language examination not later than by the end of the first year of study. Candidates may also be asked to qualify in other program-related languages;
**3** to satisfy the Centre's requirement of further practical work in the theatre by the end of the second year;
**4** to pass comprehensive examinations;
**5** to 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;
**6** to pass an oral examination on the subject of the thesis.

Although the program has been designed for completion in four years, some students may require a longer period to complete all of the requirements.

Candidates admitted on the basis of a B.A. are required to complete an additional four full-course equivalents, including DRA1000Y *History of the Theatre* and to satisfy the Centre's practical requirements for the theatre, as determined on admission.

*Regulations*
It is expected that all parts of the comprehensive examinations be taken no later than fall of the third year. Candidates who do not achieve required standing in any part of the comprehensive examinations will be allowed one further opportunity to take the relevant examination again on the occasion immediately following.

An outline of the proposed research for the thesis, signed by a member of the faculty of the Centre, must be submitted to the Graduate Co-ordinator no later than September of the second year.

Six unbound copies of the thesis must be submitted to the Graduate Coordinator of the Centre no later than August 1 (for Fall Convocation), October 15 (for Mid-Winter Convocation), or February 1 (for Spring Convocation).

**Courses of Instruction**

Registrants are advised to confirm course offerings by consulting the Centre's *Academic Handbook for Students*, normally available by mid-summer.

Courses are given in translation only where noted.

***Drama: Core Program***

DRA 1000Y History of the Theatre: Research Methods and Materials/ *J. Astington, N. Copeland*
DRA 1010Y Theory of Drama/*M. J. Sidnell, S. Johnson*
DRA 1021H Dramaturgy/*L. Katz*
DRA 1025Y Canadian Creation: Contemporary Developmental Dramaturgies/*B. Barton*
DRA 1105H Performing History/*N. Copeland*
DRA 2011H Theatrical Performance and Reception/*M. J. Sidnell*
DRA 3115H Acting in Canada and the United States/*P. Sperdakos*
DRA 4030Y Studies in Canadian Theatre and Drama/*R. Plant*
DRA 4031H Studies in Canadian Theatre and Drama I/*R. Plant*
DRA 4032H Studies in Canadian Theatre and Drama II/*R. Plant*
DRA 4061H History of American Theatre and Dramaturgy/*S. Johnson*
DRA 4090Y Directed Reading/Theatre Research/*Staff*
DRA 4091H Directed Reading/Theatre Research/*Staff*
DRA 5000Y Theatre Practice I (Credit/No Credit)/*Staff*
DRA 5001Y Theatre Practice II (Credit/No Credit/*Staff*
DRA 5002H Theatre Practice III (Credit/No Credit)/*Staff*

***Comparative Literature***

COL 3375H Interdisciplinary Approaches to an Interdisciplinary Art Form: Opera/*L. Hutcheon*
COL 5028Y Aesthetics, Media, Politics and Performances in the "Third Reich"/*J. Bochow*
COL 5016Y Dramatic Text and Theatrical Communication: Bertolt Brecht, Robert Wilson and Robert Lepage/*P. Kleber*

***Curriculum, Teaching and Learning***

CTL 1100H Holistic Arts Therapies in the Creative Curriculum/*J. A. Wilkinson*
CTL 1111H Creative Arts Special Subject/ *D. Booth*
CTL 1117H Liberatory Practices in Drama and Education/*K. Gallagher*
CTL 1823H Arts and Education: Play, Drama, and Thought/*J. A. Wilkinson*

***English***

ENG 2475Y Elizabethan Drama: The Inherited Tradition/*A. F. Johnston*
ENG 2485H London Drama, 1190-1590/*A. C. Lancashire*
ENG 2650Y Shakespearean Comedy/*A. M. Leggatt*

***French***

FRE1808H Théâtre et théâtralité au 18e siècle: Marivaux et se contemporains/*D. Trott*
FRE 2104H Théâtre québécois: le théâtre dans le théâtre/*M. O'Neill-Karch*

***German***

GER 1690H Theatre in the Weimar Republic (in translation)/*H. W. Seliger*

***Italian***

ITA 1540H Renaissance Theatre (in translation)/*K. Einsenbichler*
ITA 1720H Theatre from Verga to Futurism (in translation)/*G. Katz*

***Slavic***

SLA 1310H Revolutions in the Theatre: Slanislavski, Meyerhold, Grotowski, and Kantor (in translation)/*T. Trojanowska*

***Spanish***

SPA 2351H Masters of Twentieth-Century Spanish Drama (in translation)/ *A. Percival*

Students are asked to confirm the offerings (in drama) of the above units by consulting the Centre's *Academic Handbook for Students* when it becomes available in the summer.

# East Asian Studies EAS

## Graduate Faculty

### Full Members

S. Arntzen, BA, MA, PhD
T. J. Brook, BA, AM, PhD
J. Brownlee, BA, MA, MPh
E. Cazdyn, BA, MA, PhD
G. W. Crawford, BSc, MA, PhD
M. W. Donnelly, BS, Institute Certificate, MA, PhD, David Chu Professor of Asia-Pacific Studies
V. C. Falkenheim, BA, MA, PhD
K. Kawashima, MA.PhD
R. W. L. Guisso, BA, DPhil ***(Chair)***
R. J. Lynn, BA, MA, PhD
J. Liu, MA, PhD
N. McMullin, BA, STB, MTh, PhD
L. C. D. C. Priestley, BA, AM, MA, MPhil, PhD
K. Ruitenbeek, MA, PhD
A. Sakaki, MA, PhD ***(Coordinator of Graduate Studies)***
S. Sandahl, MA, DES, PhD
G. Sanders, BA, PhD
A. Schmid, BA, MA, PhD
M. A. Szonyi, BA, MA, DPhil
S. Uyenaka, BA, MA, PhD
D. B. Waterhouse, BA, MA, LRAM, FRSC

### Members Emeriti

E.-J. Baek, BA, MA, PhD
R. W.-H. Chu, BA, BLS, MA
M. Dolezelová, MA, PhD
F. Hoff, MA, PhD
K. Nakajima, BA, MA, MPh
A. V. Liman, MA
W. Schlepp, BSc, BA, PhD
R. Tsukimura, MA, PhD

### Associate Members

H. Wu, BA, MA, PhD
Y.-S. Yoo, PhD

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### Admission and Special Requirements

Candidates for the M.A. and Ph.D. degrees are accepted under the general regulations of the School of Graduate Studies and the regulations of the Department. It should be noted that our programs are based on the study of original texts and that they presuppose a knowledge of the relevant languages. Applicants must write a statement of approximately 500 words (two pages) setting out their main fields of interest and proposed course of study. (This statement will not be considered binding on any student whose interests change.) Ph.D. applicants should also submit three letters of recommendation from scholars who have knowledge of their previous graduate work; for M.A. applicants two letters will be sufficient. A sample of the applicant's writing (preferably in English) should also be included. The deadline for applications is January 31 for admission in September. University of Toronto graduates are expected to have completed a four-year B.A. degree in a Specialist or Major East Asian Studies program, with at least B+ standing in their final year. Students from elsewhere must demonstrate equivalent linguistic competence and a potential for research in East Asian studies. Students with inadequate preparation for a degree program may be considered for admission as full-time Special Students. Non-native speakers of English are required to show that they have attained a score of at least 600 on the Test of English as a Foreign Language (TOEFL), of 5.0 on the Test of Written English (TWE), or comparable scores on similar tests.

### Degree of Master of Arts

The M.A. program requires a minimum of one year of full-time graduate study. It may be completed either through course work or through a combination of courses and a thesis; normally four full-course equivalents are required for students not writing a thesis, and two full-course equivalents for students writing a thesis. M.A. students will be required to elect a field of concentration within a language area in consultation with the Coordinator of Graduate Studies. Normally a minimum of two approved full-course equivalents in the chosen field will be required. Students whose official records show some inadequacy in their preparation for this program may be required to spend up to two academic sessions in residence.

### Degree of Doctor of Philosophy

The normal requirement for admission to the Ph.D. program is completion of the M.A. program in the Department of East Asian Studies, or its equivalent from a recognized university,

with an average grade of at least A minus. 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.

Doctoral programs specify a period of two sessions of residence during which time the student is required to be on campus full-time and in such geographical proximity as to participate fully in the activities of the Department associated with the program. During the residence period, the Department requires four full-course equivalents. Ordinarily, three full-course equivalents will be in the major area and the fourth in a minor area. One course in bibliography and reference sources is required of all students and is usually taken at the M.A. level. If not, with departmental permission, this course may be counted as one of the courses required for the major area. Students are encouraged to take some of their courses outside the department.

A comprehensive qualifying examination is normally undertaken within three months of completion of course work and must be taken by the beginning of the fourth year of study. Before students may take the qualifying examination, they must demonstrate competence in certain secondary languages depending on their major area of study. Please consult the Web site for details of this and other requirements. All programs are designed in consultation with the Graduate Coordinator. In certain circumstances extra course work may be required.

**Collaborative Programs**

The Department participates in the Asia-Pacific Studies Collaborative Program. For further details, consult the separate entry in this calendar.

**Courses of Instruction**

Below is a list of courses that 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.

***Art and Archaeology***

EAS 1156Y Topics in the Art and Archaeology of East Asia/*D. B. Waterhouse*
EAS 1328H,Y Chinese Sculpture/*K. Ruitenbeek*
EAS 1336Y The Japanese Print/*D. B. Waterhouse*
EAS 1337Y Topics in the History of Japanese Painting/*D. B. Waterhouse*
EAS 1338Y Topics in the History of Chinese Painting/*D. B. Waterhouse*
EAS 1348H,Y Research in the History of Buddhist Art/*D. B. Waterhouse*

***Cultural Studies***

COL 3380H Globalization and Culture/*E. Cazdyn*

***Economics and Politics***

ECO 2738Y Economic Development of China and Japan/*L. Brandt*
POL 2416Y Politics and Society in Contemporary China/*V. C. Falkenheim*

***History***

EAS 1140Y From Republic to People's Republic: The Chinese Revolution from 1895 to the Present/*V. C. Falkenheim*
EAS 1141H East Asian Historiography I/ *R. Guisso, A. Schmid*
EAS 1142H East Asian Historiography II/ *A. Schmid, R. Guisso*
EAS 1143Y Civilization in Medieval China/ *R. Guisso*
EAS 1172H,Y Nations and Nationalisms of East Asia/*A. Schmid*
EAS 1173H,Y Modern Korean History Seminar/ *A. Schmid*
EAS 1174H,Y Rethinking Empire in East Asia/ *A. Schmid*
EAS 1342Y Readings in Historical Works of Ancient and Medieval Japan/ *S. Uyenaka*
EAS 1346Y Topics in the Social History of Tokugawa Japan/*S. Uyenaka*
EAS 1675Y Topics in Chinese Social and Intellectual History 1500-1950/ *Staff*
HIS 1670H The Chinese Peasant in the Twentieth Century/*M. Szonyi*
HIS 1674Y Japanese Political Thought, 1868 to Present/*J. S. Brownlee*

***Language, Linguistics and Philology***

EAS 1040Y Elementary Vietnamese/*Staff*
EAS 1101Y Introduction to Classical Chinese/ *Staff*
EAS 1104Y Advanced Readings in Classical Chinese/*Staff*
EAS 1105Y Intermediate Sanskrit Texts/ *S. Sandahl*
EAS 1106Y Advanced Sanskrit Texts I/ *S. Sandahl*
EAS 1115Y Reading Japanese for Graduate Purposes (CR/NCR)/*Staff*
EAS 1153Y The Written Word in Ancient China/*Staff*

(CR/NCR) Credit/No Credit

EAS 1161Y Topics in Korean Linguistics/*E.–J. Baek*
EAS 1162Y Altaic Languages of China/*E.–J. Baek*
EAS 1301Y Elementary Japanese for Graduate Studies I/*Staff*
EAS 1302Y Modern Standard Japanese for Graduate Studies II/*Staff*
EAS 1303Y Modern Standard Japanese for Graduate Studies III/*Staff*
EAS 1304Y Modern Standard Japanese for Graduate Studies IV/*Staff*
EAS 1312Y Introduction to Manchu/*R. I. Binnick*
EAS 1349Y Pedagogical Grammar of Japanese/*Staff*
EAS 1350Y Topics in Japanese Sociolinguistics/*K. Nakajima*
EAS 1351Y Japanese for Instructional Purposes/*K. Nakajima*
EAS 2001Y Introduction to Classical Japanese/*Staff*
EAS 2002Y Intermediate Classical Chinese/*Staff*
EAS 2004Y Introduction to Sanskrit/*S. Sandahl*
EAS 2005Y Advanced Sanskrit Texts II/*S. Sandahl*

***Literature***

EAS 1117H,Y Chinese Fiction: Its History and Art/*R. Lynn*
EAS 1137Y Chinese Poetics/*R. Lynn*
EAS 1151H,Y Chinese Poetry I/*G. Sanders*
EAS 1152H,Y Chinese Poetry II/*G. Sanders*
EAS 1200Y Japanese-Western Literary Relations/*Staff*
EAS 1319Y Modern Japanese Novelists and the West (in translation open for students in Comparative Literature)/*Staff*
EAS 1322Y The Kambun Tradition/*Staff*
EAS 1344Y Classical Japanese Poetry/*S. Arntzen*
EAS 1345H Readings in Japanese Literary Criticism/*A. Sakaki*
EAS 1456H Japan As Seen By ?: Reference, Apparatus, Operation

***Performing Arts***

EAS 1311Y Japanese Drama/*Staff*
EAS 1315Y Japanese Drama (for students who do not read Japanese)/*Staff*
EAS 1347Y Research in Asian Music/*D. B. Waterhouse*
EAS 2003H Chinese Drama: Its History and Art/*R. Lynn*

***Philosophy and Religion***

EAS 1228H Topics in Chinese Ethical Theories/*V. Shen*
EAS 1226H Topics in Modern Chinese Philosophy/*V. Shen*
EAS 1223Y Readings in Dharmasastra/*S. Sandahl*
EAS1227H Topics in Chinese Religions/V. Shen
EAS 1601Y Seminar in East Asian Buddhism/*Staff*
EAS 1602Y Topics in Korean Thought/*Staff*
RLG 3423H Religion in the Japanese Tradition/*J. S. Brownlee*
RLG 3424H Religion and Society in Classical Japan/*N. McMullin*
RLG 3712H Asceticism in the Hindu Tradition/*S. Sandahl*
RLG 3713Y Hinduism and Politics/*S. Sandahl*
SAS 1221Y *Madhyamaka* (The Dialectical Philosophy of Nagarjuna)/*L. C. D. C. Priestley*

***Reference and Research***

EAS 1100H,Y Special Topics in Chinese Studies/*Staff*
EAS 1116H,Y Special Topics in Chinese Culture
EAS 1150H,Y Reading and Major Research Paper/*Staff*
EAS 1160H,Y Basic Topics in Chinese Culture/*Staff*
EAS 1163H,Y Special Topics in Korean Studies/*Staff*
EAS 1300H,Y Special Topics in Japanese Studies/*Staff*
EAS 1313Y Japanese Source Materials and Reference Works/*S. Uyenaka*
EAS 1320H,Y Special Topics in Japanese Culture
EAS 1323Y Readings in Japanese Documentary Source Materials/*S. Uyenaka*
EAS 1999H,Y East Asian Studies Bibliography, Reference, and Research Methodology/*Staff*

# Economics ECO

## Graduate Faculty

### Full Members

V. A. Aivazian, BS, MA, PhD
G. J. Anderson, BA, MSc, PhD
W. M. D. Baker, BCom, MA, PhD
H. D. Benjamin, BSc, MA, PhD
M. K. Berkowitz, BS, MBA, PhD
***(Chair)***
R. A. Berry, BA, PhD, FRSC
L. Brandt, BS, MS, PhD
J. L. Carr, BCom, MA, PhD
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J. S. Cohen, BA, MA, PhD
***(Coordinator of Graduate Studies)***
M. G. S. Denny, BSc, PhD
D. N. Dewees, BSc, LLB, BScEE, PhD
M. Faig, BA, MEc, PhD
D. K. Foot, BA, AM, PhD
M. A. Fuss, BSc, MA, PhD
N. T. Gallini, BA, MA, PhD
C. Gourieroux, PhD, Prof, Paris IX/ENSAE
M. H. Gunderson, BA, MA, PhD, CIBC Professor of Youth Employment
G. C. Hamilton, MEc, PhD
S. Horton, BA, MA, PhD
A. J. Hosios, BEng, MA, MEng, PhD
S. K. Howson, BA, MA, MSc, PhD
G. V. Jump, BA, PhD
G. F. Mathewson, BCom, PhD
A. Melino, BA, PhD
J. M. Mintz, BA, MA, PhD
D. E. Moggridge, BA, MA, PhD
J. H. A. Munro, BA, MA, PhD
M. Osborne, BA, PhD
P. H. Pauly, MA, PhD
J. E. Pesando, BA, MA, PhD
M. H. Peters, BA, MBA, PhD
C. Pitchik, BA, MSc, PhD
F. J. Reid, BA, MSc, PhD
A. Siow, BA, PhD
M. Smart, BA, MA, PhD
M. J. Trebilcock, LLB, LLM, FRSC, University Professor
D. Trefler, BA, MPh, PhD
M. A. Turner, BA, MA, PhD
R. A. Winter, BSc, MA, PhD
A. J. Yatchew, BA, MA, PhD
X. Zhu, BSc, MSc, PhD

### Members Emeriti

N. K. Choudhry, BA, MS, PhD
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A. Rotstein, BA, PhD
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T. A. Wilson, BA, AM, PhD, FRSC

### Associate Members

M. Alexopoulos, BSc, MA, PhD
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E. Damiano, MA, MPh, PhD
H. Li, BS, PhD
J. M. Maheu, BA, MA, PhD
A. Maynard, MA, MPh, PhD
R. McMillan, BA, PhD
S. F. Mechoulan, BA, MA, PhD
D. Puga, Ldo, MSc, PhD
D. Restuccia, BA, MA, PhD
J. Roberts, BA, MA, PhD
N. Soboleva, BSc, MA, MPh, PhD
M. Stabile, BA, MA, PhD
J. van Biesebroeck, MA, PhD

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*Telephone:* (416) 978-7169
*Fax:* (416) 978-6713
*E-mail:* ecograd@chass.utoronto.ca
*Web:* www.economics.utoronto.ca

The details of the programs are printed in the booklet *Economics Graduate Brochure*, which is available from the Department of Economics. Details are also available on the Department's Web site.

## Degree of Master of Arts

### *Admission Requirements*

The minimum admission requirement to the M.A. programs is a four-year or honours degree (or equivalent) with at least a mid-B (75%) standing in the program. Applicants must have completed 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 in Economics*

The minimum requirement is the completion of the math stat review and eight half-courses

including the core courses micro, macro and econometrics. The program is normally completed in one session.

***Program in Financial Economics***
The 16-month program consists of 12 half-courses and a 4-month summer internship. Applicants must first gain admission to the M.A. program. Selections to the M.A. in Financial Economics are then made by the coordinator of this program.

In addition to the math stat review, applicants must complete at least seven half-courses in economics, including the core courses. They must also complete the following courses from the Faculty of Management: one financial accounting course and three courses from the areas of security analysis and portfolio management, financial institutions, and options and futures markets.

***Combined J.D./M.A. in Economics***
The J.D./M.A. in Economics permits the completion of both degrees in three years rather than the four years it would take to acquire them independently. Applicants will be awarded places in the Combined J.D./M.A. program only after they have secured independent admission into the J.D. and the M.A. programs.

In addition to the math stat review, students must complete 6 half-courses in economics including the core courses, and 45 credits in law to satisfy the requirements as established for each degree program.

***Asia-Pacific Studies Collaborative Program***
This program normally takes 12 months to complete. In addition to the math stat review, students must complete six half-courses in economics, including the core courses and the course ECO 2738Y *Economic Development of China and Japan* for which a major research paper is required. They must also complete the year-long interdisciplinary seminar, ASI 1000Y *Issues in Asia-Pacific Studies*, and satisfy the program's language requirement. The language requirement consists of two to four half-courses, depending on the language of choice and the student's background. For further information, consult the Asia-Pacific Studies (Collaborative Program) entry in this calendar.

***Environmental Studies Collaborative Program***
The Department of Economics, in conjunction with the Institute for Environmental Studies, offers this 12-month program. Courses taken must include the math stat review, six half-courses from economics including the core courses and the course in environmental economics, and two half-courses approved by the Institute. An internship culminating in a research paper is also required. For further information, consult the Environmental Studies (Collaborative Program) entry in this calendar.

***International Relations Collaborative Program***
Applicants to this 16-month program are required to complete the math stat review and 6 half-courses in economics including the core courses and the course in international trade. They must also complete the two courses (a) History and Philosophy of International Relations Thought and (b) International Law I: Public International Law, in addition to two other courses designed specifically for the Collaborative Program. For further information, consult the International Relations (Collaborative Program) entry in this calendar.

**Degree of Doctor of Philosophy**

***Admission Requirements***
Admission to the Ph.D. program is offered to excellent students who have completed an M.A. degree in economics by the time of enrolment. Applicants to the program must have attained at least a B+ standing at the M.A. level. Admission to the program is competitive. Those accepted into the doctoral program will normally have achieved a standing considerably higher than the minimum B+.

***Program Requirements***
The Ph.D. is a full-time program. Applicants must be registered as full-time students for a minimum period of three years. First-year students normally take two half-courses in microeconomics (ECO 2020H and ECO 2030H), macroeconomics (ECO 2021H and ECO 2031H), and econometrics (ECO 2400H and ECO 2401H). During the second year, each student chooses two field areas taking the equivalent of three half-year courses in each. Each second-year and third-year student must also participate in the full-year graduate research seminar (ECO 4060Y).
Suitable graduate level courses taken by a student in the M.A. program in the Department of Economics may fulfill some of the course requirements of the Ph.D. program.

The Ph.D. is a research degree which requires:
**1** demonstration of competence in the core of the discipline and in two of its special fields;
**2** a thesis based on original research.

Students are required to write and pass comprehensive examinations in micro, macro, and the major field by the end of the second year of study. Candidates for the Ph.D. must maintain a minimum average of B+ throughout their course work. An original paper must be written in the second year of the Ph.D. program and presented in the relevant workshop in the fall of the third year. By the spring of the third year, Ph.D. candidates must submit a proposal to a formal dissertation committee.

***Combined J.D./Ph.D in Economics***

The J.D./Ph.D. program is designed to attract highly qualified students who can benefit from the interaction between law and economics. This program allows students to complete the requirements of the J.D. degree and to reach all but the dissertation stage of the Ph.D. at the end of four years.

Students will be admitted to the Faculty of Law the first year and receive a deferred acceptance to the Ph.D. program. In the second and third years students will be considered registered in the Department of Economics and will complete the requirements of the first two years of the Ph.D. program. Students will complete their J.D. requirements in the fourth year and thereafter will be registered full-time with the Department of Economics.

Applicants must gain independent admission to both the J.D. program and the Ph.D. program in Economics. They must satisfy the normal admission requirements for each program.

***Management and Economics Collaborative Ph.D. Program***

Consult the separate entry in this calendar.

**Courses of Instruction**

Not all courses are offered every year. Please refer to the Department's Web site for a current list.

ECO 1010H Mathematics and Statistics Review for M.A. Students (CR/NCR)
ECO 1011H Mathematics for Ph.D. Students (CR/NCR)
(ECO 1010H and ECO 1011H are preliminary courses)

**A *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 M.A. students only)
ECO 2061H Economic Theory—Macro (for M.A. students only)

**B *Advanced Microeconomic Theory and Mathematical Economics***

ECO 2070H Workshop in Economic Theory (jointly with Institute for Policy Analysis) (CR/NCR)
ECO 2100H Mathematical Economics I
ECO 2101H Mathematical Economics II
ECO 2102H Topics in Microeconomic Theory

**C *History of Economic Thought***

ECO 2004H The History of Economic Thought
ECO 2005H Workshop in the History of Economic Thought (CR/NCR)
ECO 2006H Topics in the History of Economic Thought

**D *Economic History***

ECO 2210Y Topics in the Economic and Social History of Later Medieval Europe, 1250-1600
ECO 2214Y The International Economy, 1870-1970
ECO 2234H Topics in North American Economic History
ECO 2236H The Modernization of the European Economy, 1750-1939
ECO 2250H Workshop in Economic History (CR/NCR)
*See also* ECO 2738Y

**E *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) (CR/NCR)
ECO 2310H Topics in International Trade

**F *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 (CR/NCR)

(CR/NCR) Credit/No Credit

ECO 2408H Econometrics (for M.A. students only)
ECO 2410H Applied Econometrics

**G *Macroeconomics and Monetary Economics***
ECO 2103H Topics in Macroeconomic Theory
ECO 2500H Monetary Theory I
ECO 2501H Monetary Theory II
ECO 2503H Financial Economics I
ECO 2504H Financial Economics II
ECO 2505H Macroeconometric Models and Forecasting
ECO 2550H Workshop in Monetary and Macro Economics (jointly with Institute for Policy Analysis) (CR/NCR)
*See also* ECO 2704H

**H *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) (CR/NCR)
ECO 2610H Health Economics
*See also* ECO 3501H

**I *Economic Development***
ECO 2700H Economic Development I
ECO 2701H Economic Development II
ECO 2703H Topics in Development Economics
ECO 2704H Topics in Economic Growth
ECO 2738Y Economic Development of China and Japan
ECO 2770H Workshop in Economic Development (CR/NCR)
JPE 2408Y The Political Economy of Development

**J *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) (CR/NCR)
ECO 2807H Economics and Demographics

**K *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) (CR/NCR)

**L *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#
ECO 4051H Reading Course in an approved special field#
ECO 4052Y Reading Course in an approved special field#
ECO 4060Y Graduate Research Seminar (CR/NCR)

#The Department is normally prepared to supervise reading courses in economic theory, international trade theory and policy, monetary economics, economic history, public economics, environmental economics, African and Latin American economic development, and labour economics. Other fields can often be arranged. Reading courses are available only to students who have the requisite preparation and only at the discretion of faculty members.
(CR/NCR) Credit/No Credit

# Editing Medieval Texts (Collaborative Program)

**Program Committee**
J. Blackmore, BA, MA, PhD/Spanish
W. R. Bowen, BA, BMus, MA, PhD/Music
J. Goering, BA, MAR, MA, MSL, PhD/Religion
P. R. Grillo, AM, PhD/French
P. King, AB, PhD/Philosophy
M. Lettieri, BA, MA, PhD/Italian Studies
J. C. Magee, BA, MA, PhD/Classics
M. D. Meyerson, BA, MA, PhD/History
A. P. M. Orchard, BA, MA, PhD/Medieval Studies
W. Robins, BA, MPhil, PhD/English
***(Director)***
D. R. Townsend, BA, MA, PhD/Medieval Studies

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Canada
M5S 2C3

*Telephone:* (416) 978-4884
*Fax:* (416) 971-1398
*E-mail:* medieval@chass.utoronto.ca
*Web:* www.chass.utoronto.ca/medieval/editing

**Nature of Collaborative Program**
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.

**Application Procedures**
The Collaborative Program is only available to students in the doctoral stream. Students should take the Centre for Medieval Studies' M.A.-level 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 may apply for admission to the Collaborative Program as soon as they have passed the M.A.-level Latin examination. Applications should be addressed to the Program Committee, Collaborative Program in Editing Medieval Texts, Centre for Medieval Studies.

***Admission Requirements***
Students must already be admitted to the doctoral stream of one of the collaborating graduate units: Classics, English, French Language and Literature, History, Italian Studies, Medieval Studies, Music, Philosophy, Religion, or Spanish.

***Program Requirements***
**1** Prerequisite: MST 1000Y or a pass in the Centre's M.A.-level Latin examination (given in April and September).
**2** MST 1104H and MST 1105H.
**3** Two of the following half-courses:
MST 1107H, MST 1110H, MST 1101H.
**4** Any other approved half-course in editing (including departmental courses) such as: ITA 1170H, MST 1385H, MST 1388H, MUS 1245H, MUS 1138H.
**5** Participation in the required seminar in editorial practices and resources: MST 1111H *Sources and Materials for Editing Medieval Texts.*
**6** An approved text edition undertaken as the dissertation, as a project for a course, or independently for a publishable article.

**Courses of Instruction**

***Italian Studies***
ITA 1170H Editing Early Italian Texts

***Medieval Studies***
MST 1000Y Introductory Medieval Latin
MST 1101H Codicology
MST 1104H Latin Palaeography I
MST 1105H Latin Palaeography II
MST 1107H Latin Textual Criticism
MST 1110H Diplomatics
MST 1111H Sources and Materials for Editing Medieval Texts (prerequisite required)
MST 1385H Theory and Practice in Editing of Old English Texts I
MST 1388H Theory and Practice in Editing of Old English Texts II

***Music***
MUS 1138H Later Medieval Monophonic Notation
MUS 1245H Notation

# Education

For an application package, including an *OISE/UT Bulletin*, contact:

The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Registrar's Office
Graduate Studies Admissions Unit
252 Bloor Street West
Fourth Floor, Room 4-485
Toronto, Ontario
Canada M5S 1V6

*Telephone:* (416) 923-6641 ext. 2663/2664
1 (800) 785-3345
*Fax:* (416) 323-9964
*E-mail:* gradstudy@oise.utoronto.ca
*Web:* www.oise.utoronto.ca/

On July 1, 1996, the Ontario Institute for Studies in Education (OISE) and the Faculty of Education (FEUT) were integrated to form a new faculty within the University called The Ontario Institute for Studies in Education of the University of Toronto (OISE/UT).

As one of the largest faculties at the University, and one of the largest faculties of education in North America, OISE/UT, comprising five academic departments, strives to be an effective, interactive learning community which, through research, scholarship, and excellent instruction, provides the theoretical knowledge base for education as a domain of advanced study and professional practice.

Brief introductions to each of OISE/UT's five departments are provided below. For further details on their programs, courses, and graduate faculty, please consult the individual departmental entry listed alphabetically in this calendar.

**Adult Education, Community Development and Counselling Psychology (AECDCP)**
The Department of Adult Education, Community Development and Counselling Psychology is the second largest of the five departments within OISE/UT and offers a full range of graduate degrees in each of two major programs:

**1** Adult Education
**2** Counselling Psychology

Collaborative programs in Comparative, International and Development Education; Environmental Studies; and in Women's Studies are also available. Consult the separate entries in this calendar.

**Curriculum, Teaching and Learning (CTL)**
The Department of Curriculum, Teaching and Learning, the largest of the five departments within OISE/UT, offers graduate programs in

**1** Curriculum
**2** Human Development and Curriculum
**3** Master of Arts in Teaching
**4** Measurement and Evaluation
**5** Second Language Education
**6** Teacher Development

The Master of Teaching degree in the field of Human Development and Curriculum leads to Ontario College of Teachers Certification.

Collaborative programs in Comparative, International and Development Education; Environmental Studies; and in Women's Studies are also available. Consult the separate entries in this calendar.

CTL offers numerous learning opportunities in research and field development, and through off-campus and distance learning courses.

**Human Development and Applied Psychology (HDAP)**
The Department of Human Development and Applied Psychology offers graduate degrees in several programs which prepare individuals for research and professional practice in the fields of:

**1** Child Study and Education
**2** Human Development and Curriculum
**3** Human Development and Education
**4** School and Clinical-Child Psychology

The Child Study and Education program offers a Master of Arts degree in a two-year initial teacher education program leading to Ontario College of Teachers certification.

The Master of Teaching degree in the field of Human Development and Curriculum leads to Ontario College of Teachers Certification.

**Sociology and Equity Studies in Education (SESE)**
The Department of Sociology and Equity Studies in Education is the smallest OISE/UT department and offers a close working relationship between students and faculty. SESE offers graduate programs in sociology in education with an emphasis on equity issues. It is organized as a constitutional democracy in which students, staff, and faculty participate in all major decisions affecting the Department.

**Theory and Policy Studies in Education (TPS)**
The Department of Theory and Policy Studies in Education houses three graduate programs:

**1** Educational Administration
**2** Higher Education
**3** History and Philosophy of Education

TPS also offers numerous research opportunities; off-campus, distance learning courses; and cohort-based programs.

# Electrical and Computer Engineering ECE

## Graduate Faculty

### Full Members

T. S. Abdelrahman, BSc, MSc, PhD, PEng
J. S. Aitchison, BSc, PhD, Nortel Institute Chair in Emerging Technology
R. M. Baecker, BS, MSc, PhD
B. L. Bardakjian, BEd, BSc, MASc, PhD, PEng
G. Bendzsak, BSc, MSc, PhD, PEng
B. Benhabib, BSc, MSc, PhD, PEng
A. Bilas, Dipl CS&E, MA, PhD
I. F. Blake, BASc, MASc, PhD, PEng
R. Bonert, DipEng, PhD, PEng
S. D. Brown, BSc, MASc, PhD
P. Chow, BASc, MASc, PhD
E. J. Davison, BASc, MA, PhD, ScD, FIEEE, PEng
F. P. Dawson, BASc, BSc, MASc, PhD, PEng, Dusan and Anne Miklas Chair in Engineering Design
S. M. Easterbrook, BSc, PhD
M. Eizenman, BASc, MASc, PhD
G. V. Eleftheriades, DipEE, MS, PhD
D. Etiemble, BASc, PhD
E. L. Fiume, BM, MSc, PhD
B. A. Francis, BASc, MEng, PhD, FIEEE
R. C. Frecker, BSc, MD, PhD
A. A. Goldenberg, BSc, MSc, PhD, FIEEE, PEng
P. G. Gulak, BASc, MSc, PhD, PEng, L. Lau Chair
D. Hatzinakos, DipEE, MASc, PhD, PEng
P. R. Herman, BEng, MSc, PhD, PEng
M. R. Iravani, BSc, MSc, PhD
D. A. Johns, BASc, MASc, PhD
M. L. G. Joy, BSc, MASc, PhD, PEng
A. Konrad, BEng, MEng, PhD, FIEEE, PEng
F. R. Kschischang, BASc, MASc, PhD, PEng, Canada Research Chair
D. Kundur, BASc, MASc, PhD, PEng
H. Kunov, MSc, PhD, PEng
R. H. Kwong, SB, SM, PhD
J. D. Lavers, BSc, MASc, PhD, FIEEE, PEng
***(Coordinator of Graduate Studies)***
P. W. Lehn, BScEE, MSc, PhD
A. Leon-Garcia, BSc, MS, PhD, FIEEE
D. M. Lewis, BASc, PhD
J. R. Long, BSc, MEng, PhD
A. Mandelis, BSc, MA, MSc, PhD, FAPS
S. Mann, BSc, BEng, MEng, PhD
K. W. Martin, BASc, MASc, PhD, FIEEE, Stanely Ho Professor of Microelectronics
F. Najm, BE, MS, PhD
W. T. Ng, BASc, MASc, PhD, PEng
S. Pasupathy, BE, MTech, MPhil, PhD, FIEEE, PEng
D. Penny, BSc, MSc, PhD
K. Plataniotis, BEng, MSEE, PhD
J. S. Rose, BASc, MASc, PhD
H. E. Ruda, BSc, PhD
C. A. T. Salama, BASc, MASc, PhD, FIEEE, PEng, University Professor, J. M. Ham NSERC/Nortel Industrial Research Chair in
E. H. Sargent, BScEng, PhD, Canada Research Chair
A. S. Sedra, BSc, MASc, PhD, FIEEE, PEng
K. C. Sevcik, BS, MS, PhD
A. Sheikholeslami, BSc, MASc, PhD
P. W. E. Smith, BSc, MSc, PhD, FIEEE
E. S. Sousa, BASc, MASc, PhD, PEng, Bell Canada University Labs Chair in Computer Engineering
M. Stumm, DipMath, PhD
D. P. Terzopoulos, MEng, PhD
S. Valaee, BScEE, MSEE, PhD
T. E. van Deventer, BSE, MSEE, PhD, PEng
A. Veneris, DiplCS&E, MSc, PhD
A. N. Venetsanopoulos, DipEng, MS, MPhil, PhD, FIEEE, PEng, Bell Canada Chair in Multi-media
K. J. Vincente, BASc, MS, PhD
Z. G. Vranesic, BASc, MASc, PhD, PEng
D. B. Wortman, BE, MS, PhD
S. G. Zaky, BSc, MASc, PhD, PEng
***(Chair)***
S. Zhou, BS, MS, PhD
S. Zukotynski, Magister, PhD, PEng

### Members Emeriti

K. G. Balmain, BASc, MS, PhD, FIEEE, PEng, NSERC/Bell Canada Industrial Research Chair in Electromagnetics
P. I. P. Boulton, BASc, MASc, PhD, PEng
R. S. C. Cobbold, BSc, MSc, PhD
S. B. Dewan, BSc, ME, MASc, PhD, FIEEE, PEng
K. Iizuka, BE, MS, PhD
W. Janischewskyj, BASc, MASc, FIEEE, PEng
E. S. Lee, BEng, MEng, PhD, PEng
V. M. Ristic, DipIng, Magister, MSc, PhD
A. Semlyen, DipEng, PhD, FIEEE, PEng
G. R. Slemon, BASc, MASc, DIC, PhD, DSc, FIEEE, PEng
K. C. Smith, BASc, MASc, PhD, FIEEE, PEng
W. M. Wonham, BEng, PhD, FIEEE, PEng, University Professor

### Associate Members

P. Aarabi, BASc, MASc, PhD, Canada Research Chair
R. S. Adve, BTech, PhD
M. Broucke, BSEE, MS EECS, PhD EECS
A. Chan Carusone, BASc, PhD
S. W. Davies, BScEng, MScEng, MBA, PhD
B. Frey, BSc, MSc, PhD
H.-A. Jacobsen, BS, MS, PhD
B. Li, BE, MS, PhD
T. J. Lim, BA, PhD
J. W. MacLean, BASc, MASc, PhD, PEng
M. Maggiore, MS, PhD
M. Mojahedi, BS, MS, PhD

A. S. Morched, BSc, PhD, DSc
A. Moshovos, BS, MSc, PhD
A. Nachman, BSc, MA, PhD
K. Phang, BASc, MASc, PhD
G. W. Roberts, BASc, MASc, PhD
M. Voss, BEE, MSEE, PhD
W. Wong, BSc, MSc, PhD
J. Zhu, BS, MS, PhD

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*E-Mail:* grads@ece.utoronto.ca
*Web:* www.ece.utoronto.ca

The Edward S. Rogers Sr. Department of Electrical and Computer Engineering offers graduate courses and research opportunities in:

***Communications*:** multimedia systems; digital signal processing; digital filters; neural networks; image processing and coding; video compression; data compression; digital communications; information theory; error control coding; communications algorithms; radar-sonar systems; satellite communications; mobile and fixed wireless systems; spread spectrum systems; CDMA, PCS; radio networks; communication networks; broadband networks; light wave networks; network management and control; internetworking; integrated services ATM and IP networks; multimedia networks;

***Computers:*** computer architecture; operating systems; systems programming; optimizing and parallelizing compilers; language processors; computer networks; distributed systems; parallel systems; trusted systems; reliability and diagnosability; array processors; non-binary logic; digital circuits; computer-aided design; computer applications; field-programmable gate arrays and systems; reconfigurable computing; CAD for VLSI synthesis, testing;

***Electromagnetics:*** field theory and measurements; radiation and guided-wave phenomena; high-speed design; electromagnetic compatibility; antenna theory and design; computational electromagnetics; microwave and millimetre-wave integrated circuits and antennas; wave electronics; novel micromachined components; terrestrial and satellite wireless applications; quasi-optics; ionospheric plasma waves; spacecraft electrostatic discharge; novel materials; bioelectromagnetics;

***Electronics:*** semiconductor device physics; transport and optical properties of semiconductors; solid-state transducers; linear and digital circuits; active, passive, and digital filters; integrated circuit design; VLSI design and technology; digital communication circuits; RF circuits; computer-aided circuit design and testing;

***Photonics*:** fiber bragg gratings; fiber sensors; high-efficiency solar cells; integrated optics; lightwave technology; materials growth for optoelectronic devices; nonlinear optics; optical properties of semiconductors; optical signal-processing; semiconductor laser and optoelectronic device modelling, design, fabrication, and testing; short wavelength lasers and applications in laser processing; ultrafast nonlinear optical phenomena and devices;

***Power Devices and Systems:*** electric power systems; high voltage phenomena; energy conversion; power modulators; power semiconductor systems; induction heating; electromagnetic field-fluid interaction; magnetic materials; linear motors; electric propulsion systems; control of discrete-event systems; machine systems stability; electromechanical devices;

***Systems Control:*** control of multivariable systems; control of discrete-event systems; control of nonlinear systems; process modelling and identification; stochastic control; fault diagnosis; adaptive signal processing and control; control of queueing systems; interactive computer-aided design; microprocessor control systems; large-scale system theory; optimization and simulation; robotics; urban traffic control; power system control; biological modelling; multirate digital signal processing and wavelets; hybrid systems; control of autonomous vehicles.

***Biomedical Engineering:*** Facilities for interdisciplinary study and research are available through the *Institute of Biomaterials and Biomedical Engineering*: acoustics and hearing; clinical engineering; Doppler ultrasound and biofluid mechanics; drug delivery systems; eye positioning measurement and vision; modelling of biological clocks; medical imaging; rehabilitation engineering; sensory theory and computational neuroscience; proteomics and bioinformatics; DNA sequencing.

**ECE Colloquium**
During the first year of registration, M.A.Sc. and Ph.D. students are required to attend the ECE Colloquium which includes a seminar on ethics in research.

**Degree of Master of Engineering (Specialization in Software Engineering)**
The M.Eng. (Specialization in Software Engineering) degree is offered as part of ConGESE: the Consortium for Graduate Education in Software Engineering. ConGESE is a cooperative effort between six Ontario universities. It provides graduate education specially structured for software professionals in Ontario industries. Each cooperating university offers courses in this program. The courses are commonly offered on-site (mostly at IBM, BNR) with cooperating industrial sponsors and are designed for the working professional who might otherwise find it difficult to attend regular, on-campus courses. Consult the Software Engineering entry in this calendar.

**Degree of Master of Engineering in Telecommunications**
The M.Eng.Tel. is a unique graduate degree program designed to prepare telecommunications and networking professionals to practice in the environment of competing technologies, standards, business models and network and service visions. The program leverages on the strengths of the university and its industry partners through lectures that are delivered by leading academics, industry experts, and top executives. The opportunity to network with professionals as well as with other students provides a broad view of the industry.

**Degree of Master of Engineering**
The general regulations for the Master of Engineering degree are set out in this calendar. A candidate will enrol in a field of study in consultation with a designated professor who will act as the supervisor throughout the student's candidacy. For students with adequate undergraduate preparation, the program will normally comprise nine half-courses, of which at least five must be from the Department of Electrical and Computer Engineering. With the approval of the student's supervisor, an engineering project may replace three of these half-courses.

The M.Eng. degree program may be taken on a full-time or part-time basis.

**Degree of Master of Applied Science**
Candidates for this degree are accepted under the general regulations. The work leading towards the degree of Master of Applied Science provides an opportunity for the student to pursue advanced studies in the particular field of major interest and an opportunity to engage in research and engineering design.

Each candidate's program of study must receive the approval of the Department of Electrical and Computer Engineering, and, in general, shall consist of a research or design project on which a thesis must be submitted, together with courses selected from the list below and elsewhere in this calendar.

For students with adequate undergraduate preparation, the M.A.Sc. program will normally comprise five half-year graduate courses and a 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. The Department reserves the right to require additional course work of students whose undergraduate preparation does not include the study of subjects deemed to be necessary for research in the field chosen.

**Degree of Doctor of Philosophy**
Candidates for this degree are accepted under the general regulations. Before acceptance as a candidate for the Ph.D. degree, the Department must be satisfied of the student's ability to do advanced work. Each candidate will be required to pass courses of study to satisfy the requirements of the general regulations and the specific requirements of the Department. The Ph.D. program will normally consist of five half-year graduate courses not previously used for other degree credit, and a thesis.

Some outstanding students may be permitted to transfer directly from the M.A.Sc. program to the Ph.D. program without completing the M.A.Sc. degree. Such students will be required to complete ten half-year graduate courses, unless they already hold a master's degree.

During the first year of registration as a candidate for the Ph.D. degree, 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 Graduate Studies Handbook*.

**Courses of Instruction**
The following groups of courses in the more distinct fields of graduate study in Electrical and Computer Engineering are presented for stu-

dent guidance in selecting courses. The Department should be consulted each term as to course offerings. Suitable courses offered by other departments 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 participate in the non-credit seminar course JDE 1000H *Ethics in Research* during their first or second term of registration.

The Department should be consulted each term as to course offerings.

***Power Devices and Systems***

ECE 533H Power Electronics/*Staff*
ECE 1040H Linear Steady State Field Analysis/*J. D. Lavers, A. Konrad,*
ECE 1041H Numerical Solution of Field Problems/*A. Konrad, J. D. Lavers*
ECE 1042H High-Voltage Engineering/*W. Janischewskyj*
ECE 1049H Special Topics in Power Devices and Systems/*Staff*
ECE 1054H Analysis of Electromagnetic Transients/*M. R. Iravani*
ECE 1055H Dynamics of HVdc/ac Transmission Systems/*M. R. Iravani*
ECE 1056H Power Quality Control and Delivery/*M. R. Iravani, H. A. Kojori*
ECE 1059H Special Topics in Power Systems/*Staff*
ECE 1062H Applications of Power Electronics in Electrical Systems/*M. R. Iravani*
ECE 1063H Application of Power Devices/*F. P. Dawson, W. T. Ng*
ECE 1065H Custom Power Devices/*P. W. Lehn*
ECE 1068H EMC in Power Engineering/*F. P. Dawson*
ECE 1072H AC Drive System Dynamics/*R. Bonert*
ECE 1079H Special Topics in Electromechanical Energy Conversion/*Staff*
ECE 1080H Application of Approximate Methods to Field Problems/*J. D. Lavers, A. Konrad*
ECE 1081H Application of the Finite Element Method to Field Problems/*A. Konrad, J. D. Lavers*
ECE 1082H Mathematics for Advanced Electromagnetics/*A. Konrad*
ECE 1089H Special Topics in Electromagnetics/*Staff*
ECE 1090H Power Devices and Systems—Seminar I/*Staff*
ECE 1091H Power Devices and System—Seminar II/*Staff*

***Electromagnetics***

ECE 1228H Electromagnetic Theory/*T. E. van Deventer*
ECE 1229H Advanced Antenna Theory/*G. V. Eleftheriades*
ECE 1236H Microwave and Millimetre-wave Techniques/*G. V. Eleftheriades*
ECE 1243H Topics in Electromagnetic Waves/*Staff*
ECE 1244H Plasma Waves/*K. G. Balmain*
ECE 1247H Nonlinear Optics/*S. Dmitrevsky*

***Electronics***

ECE 512H Analog Filters/*D. A. Johns*
ECE 530H Analog Electronics/*K. W. Martin*
ECE 534H Integrated Circuit Engineering/*C. A. T. Salama*
ECE 1333H Selected Topics in Semiconductor Physics/*S. Zukotynski*
ECE 1334H Selected Topics in Solid State Electronics/VLSI Technology/*C. A.T. Salama*
ECE 1336H Semiconductor Physics/*S. Zukotynski*
ECE 1352H Analog Circuit Design I/*A. S. Sedra, K. W. Martin*
ECE 1360H Selected Topics in Instrumentation/*Staff*
ECE 1362H Filter Theory and Design/*D. A. Johns*
ECE 1364H Selected Topics in Solid State Circuit Design/*J. R. Long*
JEB 1365H Ultrasound: Theory and Applications in Biology and Medicine/*R. S. C. Cobbold*
ECE 1371H Advanced Topics in Analog Circuits/*K. W. Martin*
ECE 1373H VLSI Systems Design/*P. Chow*
ECE 1379H Introduction to Compound Semiconductor Devices/*Staff*
ECE 1384H Digital Circuit Design/*A. Sheikholeslami*
ECE 1385H Selected Topics in VLSI Systems/*P. G. Gulak*
ECE 1387H CAD for Digital Circuit Synthesis and Layout/*J. S. Rose*
ECE 1388H VLSI Design Methodology/*C. A. T. Salama*
ECE 1390H Selected Topics in Circuits and Systems/*Staff*
ECE 1391H Advanced Microelectronic Devices/*W. T. Ng*
ECE 1392H Integrated Circuits for Digital Communications/*D. A. Johns*
ECE 1393H Semiconductor Devices/*W. T. Ng*

***Biomedical Engineering***

JEB 1365H Ultrasound Theory and Applications in Biology and Medicine/*R. S. C. Cobbold*
JEB 1375H Practical Optimization/*B. L. Bardakjian*
JEB 1433H Medical Imaging/*M. L. G. Joy*
JEB 1444H Neural Engineering/*B. L. Bardakjian*
JEB 1447H Electroacoustics: Theory and Medical Applications/*H. Kunov*
JEB 1451H Cellular Bioelectricity/*B. L. Bardakjian*

***Photonics***

ECE 527H Photonics I/*E. H. Sargent*
ECE 1435H Applied Optics/*K. Iizuka*
ECE 1448H Quantum Mechanics for Engineers/*S. Dmitrevsky*
ECE 1450H Photonics II/*P. W. E. Smith*
ECE 1460H Special Topics in Photonics/*K. Iizuka, E. H. Sargent*
ECE 1461H Advanced Laser Processing/*P. R. Herman*
ECE 1463H Fiber Bragg Gratings/*P.R. Herman*
ECE 1466H Photonic Switching—Lightpaths, Labels, Packets/*E. H. Sargent*
ECE 1467H Integrated Optical Circuit Design/*J. S. Aitchison*

***Communications***

ECE 1500H Stochastic Processes/*Staff*
ECE 1501H Error Control Codes/*F.R. Kschischang*
ECE 1502H Information Theory/*F. R. Kschischang*
ECE 1506H Communications and Signal Processing—Seminar I/*Staff*
ECE 1507H Communications and Signal Processing—Seminar II/*Staff*
ECE 1508H Special Topics in Communications/*Staff*
ECE 1511H SignalProcessing/*D. Hatzinakos*
ECE 1512H Digital Image Processing and Applications/*A. N. Venetsanopoulos*
ECE 1514H Spectral Analysis and Array Processing/*D. Hatzinakos*
ECE 1515H Smart Antennas/*R. S. Adve*
ECE 1520H Data Communications I/*S. Pasupathy*
ECE 1521H Statistical Communication Theory/*S. Pasupathy*
ECE 1522H Data Communications II/*S. Pasupathy*
ECE 1523H Coded Modulation/*F. R. Kschischang*
ECE 1528H Special Topics in Data Communications/*Staff*
ECE 1529H Adaptive Systems for Signal Processing and Communications/*K. N. Plataniotis*
ECE 1530H Multi-User Detection/*T. J. Lim*
ECE 1540H Digital Telephony/*A. Leon-Garcia, S. G. Zaky*
ECE 1541H Communication Networks I/*A. Leon-Garcia*
ECE 1542H Communication Networks II/*Staff*
ECE 1543H Mobile Communications Systems/*E. S. Sousa*
ECE 1544H Optical Communication Networks/*Staff*
ECE 1545H Bridges and Routers/*Staff*
ECE 1546H Broadband Integrated Networks/*Staff*
ECE 1547H Content-Based and Network Security/*D. Kundur*

***Systems Control***

ECE 557H Systems Control/*Staff*
ECE 1617H Large Scale System Theory and Control I/*E. J. Davison*
ECE 1619H Linear Systems/*B. A. Francis*
ECE 1635H Special Topics in Control I/*Staff*
ECE 1636H Control of Discrete-Event Systems I/*W. M. Wonham*
ECE 1637H Control of Discrete-Event Systems II/*W. M. Wonham*
ECE 1639H Analysis and Control of Stochastic Systems I/*R. H. Kwong*
ECE 1640H Analysis and Control of Stochastic Systems II/*R. H. Kwong*
ECE 1641H Multivariable Control Design/*B. A. Francis*
ECE 1643H Special Topics in Control II/*Staff*
ECE 1644H Large Scale System Theory and Control II/*E. J. Davison*
ECE 1646H Digital Control/*B. A. Francis*
ECE 1647H Nonlinear Control System Analysis/*M. Maggiore*
ECE 1648H Nonlinear Control System Design/*M. Maggiore*
ECE 1649H Adaptive Control/*Staff*
ECE 1650H Multirate Digital Signal Processing and Wavelets/*B. A. Francis*
ECE 1651H Adaptive Signal Processing and Control/*R. H. Kwong*
ECE 1652H Stochastic Processes with Applications/*R. H. Kwong*
ECE 1653H Hybrid Systems and Control Applications/*M. Broucke*

***Computers***

ECE 532H Digital Hardware/*Staff*
ECE 540H Optimizing Compilers/*M. Voss*

ECE 552H Computer Architecture/*T. S. Abdelrahman*
ECE 1718H Special Topics in Computer Hardware Design/*Staff*
ECE 1724H Special Topics in Software Engineering/*Staff*
ECE 1729H Fault Tolerant Computing/*Z. G. Vranesic*
ECE 1733H Topics in Switching Theory/*Z. G. Vranesic*
ECE 1734H Computer Communications/*S. G. Zaky*
ECE 1746H Distributed Systems/*M. Stumm*
ECE 1747H Parallel Programming/*T. S. Abdelrahman*
ECE 1751H VLSI Arithmetic Structures/*D. M. Lewis*
ECE 1752H Real Time Systems and Software/*M. Stumm*
ECE 1754H Compilation Techniques for Parallel Processors/*T. S. Abdelrahman*
ECE 1755H Parallel Computer Architecture and Programming/*A. Bilas*
ECE 1756H Digital Hardware Design Using Programmable Logic Devices/*S. Brown*
ECE 1759H Advances in Operating Systems/*M. Stumm*
ECE 1761H Advanced Topics in Digital Hardware/*S. D. Brown*
ECE 1762H Algorithms and Data Structures/*Staff*
ECE 1765H File Structures and Storage Systems/*Staff*
ECE 1766H Personal Cybernetics and Intelligent Imaging Systems/*S. Mann*
ECE 1767H Design for Test and Testability/*A. Veneris*
ECE 1768H Reliability of Integrated Circuits/*F. N. Najm*
ECE 1769H Behavioural Synthesis of Digital Integrated Circuits/*J. Zhu*
ECE 1770H Trends in Middleware Systems—Selected Topics and Concepts/*H.-A. Jacobsen*
ECE 1771H Quality-of-Service Provisioning in Mobile Networks/*B. Li*
ECE 1772H Motion Analysis in Computer Vision/*W. J. MacLean*
ECE 1773H Advanced Computer Architecture/*A. Moshovos*
ECE 1774H Sensory Cybernetics and the Theoretical Foundations of the Senses/*W. Wong*
ECE 1775H Microphone Arrays: Theory and Applications/*P. Aarabi*

***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

***Industry-Oriented Studies***

ECE 1901H Case Studies in Electrical Engineering/*Staff*

# English ENG

## Graduate Faculty

### Full Members

S. C. Akbari, BA, MA, MPhil, PhD
J. H. Astington, BA, MA, PhD
H. Auster, BA, MA, PhD
J. D. Baird, MA, PhD
A. J. Bewell, BA, MA, PhD
***(Acting Chair)***
R. M. Brown, BA, MA, PhD
J. E. Chamberlin, BA, PhD, FRSC
G. E. Clarke, BA, MA, PhD
B. Corman, AB, AM, PhD
M. J. A. Cuddy-Keane, BA, MA, PhD
P. B. Downes, BA, MA, PhD
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A. H. de Quehen, BA, PhD
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D. I. Galbraith, BA, MA, PhD
M. J. Garson, BA, MA, PhD
R. T. Greene, BA, MA, DPhil, PhD
E. D. Harvey, BA, MA, PhD
***(Director of Graduate Studies)***
E. R. Harvey, BA, MPhil, PhD
A. di P. Healey, BA, MA, PhD
G. E. Henderson, BA, MA, PhD
L. A. M. Hutcheon, BA, MA, PhD, University Professor
H. J. Jackson, BA, MA, PhD
A. F. Johnston, MA, PhD, LLD, DD, FRSC
C. Kanaganayakam, BA, PhD
D. N. Klausner, AB, PhD
N. ten Kortenaar, MA, PhD
A. C. Lancashire, BA, AM, PhD
D. I. Lancashire, BA, MA, PhD
R. G. Landon, BA, BLS, MA
A. M. Leggatt, BA, MA, PhD
G. M. Leonard, BA, MA, PhD
M. J. Levene, BA, MA, PhD
J. L. Levenson, BA, MA, PhD
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L. Munk, BA, MA, PhD
H. Murray, BA, MA, PhD
M. E. Nyquist, BA, MA, PhD
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J. W. O. Patrick, BA, MA, PhD
C. E. Percy, BA, MA, DPhil
M. F. Redekop, BA, MA, PhD
J. H. Reibetanz, BA, MA, PhD
W. Robins, BA, MA, MPhil, PhD
W. D. Shaw, BA, AM, PhD, FRSC
S. Solecki, BA, MA, PhD
B. C. Stock, AB, PhD
R. Sullivan, BA, MA, PhD, Canada Research Chair
L. Thomson, BA, MA, PhD
D. R. Townsend, BA, MA, PhD
K. A. Weisman, BA, MA, PhD

### Members Emeriti

T. H. Adamowski, BA, MA, PhD
P. R. Allen, BA, MA, PhD
F. J. Asals, BA, MA, PhD
G. E. Bentley Jr, BA, BLitt, DPhil, DLitt, FRSC
P. Brückmann, AB, MA, PhD
E. M. Cameron, BA, MA, PhD
J. Carscallen, BA, BLitt, PhD
D. D. C. Chambers, MA, PhD
M. E. Cook, MA, PhD, FRSC
M. F. N. Dixon, BA, MA, PhD
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J. D. Duffy, AB, MA, PhD
J. Dutka, BA, MA, PhD, ARCT
F. T. Flahiff, BA, MA, PhD
R. I. C. Graziani, BA, MA, PhD
W. H. Halewood, BA, MA, PhD
B. S. Hayne, BA, AM, PhD
F. S. D. Hoeniger, MA, PhD
W. J. Howard, BA, STB, MA, PhD
J. R. de J. Jackson, BA, AM, MA, PhD, FRSC, University Professor Emeritus
H. Kerpneck, BA, MA, PhD
M. C. Kirkham, BA, MPhil
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N. R. Lindheim, BA, MA, PhD
H. R. MacCallum, BA, MA, PhD
J. J. Macpherson, MA, BLS, PhD
F. J. Marker, AB, DFA
J. C. Meagher, MA, PhD
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M. J. Sidnell, BA, MA, PhD
E. P. Vicari, BA, MA, PhD
C. W. Visser, BA, BLitt, PhD
G. T. Warkentin, BA, MA, PhD

### Associate Members

A. Ackerman, BA, MA, PhD
D. Bennett, BA, MA
P. W. M. Blayney, BA, PhD
C. Bolus-Reichert, BPhil, MA, PhD
J. M. DeLombard, BA, MA, PhD
A. Dooley, BA, MA, PhD
M. Goldman, BFA, MA, PhD
L. Goodison

J. C. Hunter, BA, MA, PhD
M. Korey, AB, MS
S. Lamb, BA, MA, PhD
H. Li, BA, PhD
N. Morgenstern, BA, MA, PhD
A. Most, MA, PhD
N. Mount, BA, MA, PhD
S. J. Ortiz
D. E. White, BA, MA, PhD
M. Woodland, BA, MA, PhD

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Admissions are selective, and possession of minimum qualifications does not guarantee admission.

Applicants, including those from the University of Toronto, must arrange for recommendations from two referees and must submit a statement of purpose. Admission to all programs for higher degrees will be based upon the candidate's undergraduate and graduate record and upon the evidence of the references and statement. Since it may take several weeks to complete an application file, all students wishing to be considered for University of Toronto Fellowships are urged to submit applications well ahead of the January 15 deadline.

**Note:** 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 TOEFL and achieve a score of 600 or better. The TOEFL must include the Test of Written English, and applicants must achieve a minimum score of 5.

**Degree of Master of Arts**
The M.A. program usually requires twelve months to complete for students who are graduates of a four-year program in English or English and another subject at this University, or a similar program elsewhere. Candidates must have a B+ average or better and show evidence of first-class work in English for admission to the M.A. program. In considering applications, the Department favours a broad training in the major genres and all periods of English literary history. Applicants are encouraged to take the Graduate Record Examination and to have a report sent to the Graduate Department.

Candidates may elect to take the degree by course work only or by course work and thesis. In either case, candidates must attain a B standing in each graduate course.

***M.A. by Course Work***
For most students, and especially those going on to the Ph.D., this is the preferred option. Candidates are required to earn a credit in Bibliography I and to complete four approved, full graduate courses or the equivalent in English.

***M.A. by Thesis***
The thesis option may be preferable for some students, especially those not intending to proceed to the Ph.D. It requires Bibliography I, two full graduate courses in English, or the equivalent, and a thesis of approximately 30,000 words on a topic approved by the Department. The requirements for the thesis are as follows:
**1** The topic, approved by a member of the graduate faculty willing to act as supervisor, must be submitted to the Department not later than November 30 in the year of admission.
**2** Two copies of the thesis must be submitted to the Department by April 2 for candidates who wish to graduate at the Spring Convocation or by September 1 for those wishing to graduate at the Fall Convocation.
**3** The thesis will be examined by three members of the Department, including the supervisor, all of whom will make short written reports. The Department will arrange an oral defence, chaired by the Associate Director, Ph.D., or a delegate, at which the thesis may be accepted as is or subject to specified minor modifications. Any modifications must be made and approved by the supervisor and the examination chair within three months of the oral examination. If either the thesis or the defence is found unacceptable, the examination will be adjourned for up to one year, and the examination committee will provide the candidate with a brief written reason for the adjournment. Only one such adjournment is permitted. At a reconvened examination, both the thesis and oral examination must be found acceptable as is or subject to minor modifications as above.

**Degree of Doctor of Philosophy**
Applicants for admission to the Ph.D. program must normally complete a master's degree in English at this or another university, with average standing of A- or better, and must satisfy the Department that they are capable of inde-

pendent research at an advanced level. Exceptionally qualified candidates for M.A. admission may be offered admission directly to the Ph.D. program. The first year of their Ph.D. program is the equivalent of the M.A. program described above. Applicants are encouraged to take the Graduate Record Examination and to have a report sent to the Graduate Department. Though it is possible to complete the Ph.D. in English within the minimum of four years, most candidates will require at least five years to complete all the requirements, including the thesis.

Candidates are required:

**1** to demonstrate a reading knowledge of French and may be asked to qualify in other program-related languages (this requirement must be satisfied by May 31 of the third year; with the written permission of the Department, another program-related language may be substituted for French);

**2** to take Bibliography I (if this, or an equivalent course, has not already been taken), one half-course in Bibliography II, ENG 9500Y *Professional Development,* and ENG 9900H *Professing Literature*, a total of six of the graduate courses listed below (including any already taken in candidature for the M.A.), and one further approved course which may be taken in another graduate department of this University (candidates must attain at least a mid-B in each course and an A in one of them, and an average of high B overall); at least two full courses (or equivalent in half-courses) must be taken outside the student's field of specialization, and the student is encouraged to combine these courses in a minor field. Graduate courses taken towards the M.A. and in fulfilment of the English language requirement are counted in this connection, but not courses in the 8000 and 9000 series. The candidate's selection of courses must meet the approval of the Associate Director, Ph.D. of the Department; a candidate who has not completed ENG 240 *Old English Language and Literature* in the Arts and Science program, or an equivalent course, must take either ENG 240, ENG 1001H, or ENG 6361H, or pass a special examination in Old English; all course work must be completed by the end of the second Ph.D. year, except where special permission to the contrary has been granted by the Department;

**3** to pass a general examination (two three-hour written papers) based on a Reading List of 75 titles covering the whole range of English literature; and to pass a special field examination (written and oral) based on the candidate's individual reading list of works in the thesis area;

**4** to submit a thesis on an approved subject embodying the results of original investigation which shall be judged to constitute a significant contribution to the knowledge of the field, and to pass an oral examination on the subject of the thesis (candidates are advised to regard the normal length of a Ph.D. thesis as approximately 75,000 words, but should note that the maximum length accepted by the Department is 100,000 words).

Students entering the Ph.D. program with an M.A. must attempt both parts of the general examination no later than April of their first year and pass both parts no later than January of their second year. Students admitted directly to the Ph.D. program with a B.A. must attempt both parts of the general examination by April of their second year and pass both parts no later than January of their third year. The special field examination should be taken by the end of April of the second year; a second attempt is allowed. Applications to take the general examinations must be made to the Associate Director, Ph.D. of the Department.

An outline of the proposed research for the thesis, approved by the prospective supervisor, must be submitted to the Associate Director, Ph.D. not later than October 15 of the second year.

Four unbound copies of the completed thesis must be submitted to the Director of the Department for appraisal and examination. Candidates should expect an interval of eight to ten weeks between submission and the holding of the final oral examination.

**Courses of Instruction**

The following list of courses is subject to revision; further information, including course descriptions, may be obtained from the Department before enrolment. The courses offered by the Department vary considerably from year to year.

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 Ph.D. program. With the special approval of the Director of Graduate Studies, candidates for the Ph.D. may substitute one such course for one (and not more than one) of the required courses.

***English***

ENG 1001H Old English I/*D. R. Townsend*
ENG 1002H Old English II/*D. R. Townsend*
ENG 1081H The Anglo-Saxon Riddle Tradition/*A. Orchard*
ENG 1303H Studies in Middle English Literature/*E. R. Harvey*

ENG 1573H Studies in the Poems of the *Pearl* Manuscript/*E. R. Harvey*
ENG 2015H Printing and Publishing in Tudor England/*P. Blayney*
ENG 2053H All Donne: Theory and Context/ *E. D. Harvey*
ENG 2475Y Elizabethan Drama: The Inherited Tradition/*A. F. Johnston*
ENG 2485H London Drama, 1190-1590/*A. C. Lancashire*
ENG 2487H The Literary Culture of the 1590s/ *D. I. Galbraith*
ENG 2650Y Shakespearean Comedy/*A. M. Leggatt*
ENG 3253H Travel and Travellers in Literature and Culture, 1660-1830/*S. Lamb*
ENG 3453H British Poetry of the Early Eighteenth Century/*R. Greene*
ENG 3701H Studies in the Eighteenth-Century Novels/*J. D. Baird*
ENG 4235H Keats: The Poet and His World/ *A. J. Bewell*
ENG 4503H Empire, Nation and the Construction of Victorian Englishness/ *J. Matus*
ENG 4625Y Gender and Genre in Nineteenth-Century Literature/*W. D. Shaw*
ENG 4667H Romantic Orientalism/*D. White*
ENG 4757H The Victorian Middle-Class Novel/ *C. Bolus-Reichert*
ENG 4907H Representing the Slave: Law and Antebellum American Literary Abolitionism/*J. DeLombarde*
ENG 4978H Visions and Revisions: The Sublime in Contemporary American Poetry/*M. Woodland*
ENG 5010H Conrad, Kipling and the Climate of the Nineties/*H. Auster*
ENG 5045H Social Reform, Socialist, and Suffragist Writings of Nineteenth Century and Turn of the Century English-Canada/*H. Murray*
ENG 5053H Modern Irish Drama/*A. Ackerman*
ENG 5105H Magic Realism and Magic Realisms/*N. ten Kortenaar*
ENG 5113H Midnight's Grandchildren: New Writing in South Asia/ *C. Kanaganayakam*
ENG 5583H The Traffic in Women: Turn-of-the Century American Fiction and the Sexual Contract/ *N. Morgenstern*
ENG 5707H Canadian Literature and the Canon/*D. Bennett*
ENG 5737H Studies in Three Canadian Authors: Elizabeth Smart, Gwendolyn MacEwen, and Margaret Atwood/*R. Sullivan*
ENG 5755H Writing Home/*M. Goldman*
ENG 5777H The Bible and Canadian Literature/*R. M. Brown*
ENG 6003H Literary History and Identity Politics/*L. A. M. Hutcheon*
ENG 6155Y Speculative Fiction and Film/A. *C. Lancashire, D. I. Lancashire*
ENG 6362H History and Structure of the English Language II/*C. E. Percy*
ENG 8000H Bibliography I/*G. Fenwick, R. Landon, R. R. McLeod*
ENG 9003H Bibliography II: Studies in Bibliography, 1660-1800/ *R. Landon*
ENG 9005H Bibliography II: Studies in Twentieth Century/*G. Fenwick*
ENG 9500Y Professional Development/*R. M. Brown*
ENG 9900H Professing Literature/*H. Murray*

***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

***Comparative Literature***

COL 2250H Language of Poetry/*J. E. Chamberlin*
COL 3375H Interdisciplinary Approaches to an Interdisciplinary Art Form: Opera/*L. A. M. Hutcheon*
COL 5023Y The History of Reading between Late Antiquity and the End of the Sixteenth Century/*B. Stock*
COL 5024Y Thomas More: Renaissance Humanism and the History of Utopian Thought/*B. Stock*
COL 5025H Feminism and Postmodernism: Theory and Practice/ *B. Havercroft*

***Drama***

DRA 1010Y Theory of Drama/*Staff*
DRA 4030Y Studies in Canadian Theatre and Drama/*R. Plant*

***Medieval Studies***

MST 1381H Homilies of the Vercelli Book/ *A. Healey*
MST 1383H Old English Biblical Verse/ *A. Orchard*
MST 1384H Topics in Old English Lexicography/*Staff*
MST 2040H Medieval Rhetoric and Poetics/ *J. Ross*
MST 3107H Classical Monsters in Early Medieval Contexts/*A. Orchard*

MST 3125H Narrative Strategies in the Middle English Literature of Pastoral Care I: The Bible and Biblical Texts of Instruction/*A. M. Hutchison, G. Trudel*

MST 3126H Narrative Strategies in the Middle English Literature of Pastoral Care II: Manuals of Instruction and Devotion/*A. M. Hutchison, G. Turdel*

# Environmental Engineering (Collaborative Program)

**Executive Committee**

P. H. Byer, SB, SM, PhD, PEng/Civil Engineering ***(Chair)***
D. W. Kirk, BASc, MASc, PhD, PEng/Chemical Engineering & Applied Chemistry
L. H. Shu, BS, SM, PhD/Mechanical & Industrial Engineering
B. E. Sleep, BASc, MASc, PhD/Civil Engineering
T. A. Utigard, BSc, MASc, PhD, PEng/Materials Science & Engineering

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*Web:* www.ecf.utoronto.ca/apsc/enveng

The Environmental Engineering Program (EEP) is an interdisciplinary collaborative program designed for students interested in taking a concentration of courses and doing research in environmental engineering. It is open to M.A.Sc., M.Eng., and Ph.D. students in one of the following collaborating graduate departments in the Faculty of Applied Science and Engineering:
Chemical Engineering and Applied Chemistry
Civil Engineering
Mechanical and Industrial Engineering
Materials 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 coordinated by the Division of Environmental Engineering in conjunction with the participating departments and the Institute for Environmental Studies.

To register in the EEP, students must first apply to and be accepted into a master's or 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/she may apply to and register in the EEP; this should be done no later than the end of the first session of study. Application forms are available from the Division or any of the collaborating departments.

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 Institute for Environmental Studies. See the calendar entries for the collaborating departments and the Institute for Environmental Studies for lists of courses. More detailed information on faculty, areas of research, and courses is available from the Division, and on the Division's Web site.

**Program Requirements**

The EEP requirements are:
**1** 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.
**2** Completion of at least one course with substantial interdisciplinary content outside of the student's technical field. This course must be chosen from a list established by the program committee. The current list is available from the Division.
**3** Participation in EDE 3000H, the Environmental Engineering Research Seminar Series, for at least two sessions. This is mandatory for M.A.Sc. and Ph.D. students and recommended for M.Eng. students.

Students who complete these EEP requirements will obtain the following statement on their transcript: "Completed Collaborative Program in Environmental Engineering".

# Environmental Studies IES

## Graduate Faculty

### Full Members

J. P. D. Abbatt, BSc, AM, PhD/Chemistry
B. J. Adams, BSc, MS, PhD, PEng/Civil Engineering
R. C. Andrews, BASc, MSc, PhD, PEng/Civil Engineering
D. M. Bagley, BS, MS, PhD, PEng/Civil Engineering
S. C. H. Barrett, BSc, PhD, Canada Research Chair/Botany
T. J. Blake, BScF, STB, MF, PhD, DipFor/Forestry
R. B. Bryan, BA, PhD/Forestry
M. Bunce, BA, PhD/Geography
F. D. Burton, BSc, MA, PhD/Anthropology
P. H. Byer, SB, SM, PhD, PEng/Civil Engineering
T. J. Carleton, BSc, MSc, PhD/Forestry
C. G. Chalin, PhD, MDiv/Public Health Sciences
J. M. Chen, BSc, PhD/Geography
J. M. Cherry, BSc, MLS, PhD/Information Studies
R. W. Cockerill, BA, MA, PhD/Health Policy, Management and Evaluation
P. A. Cooper, BScF, MSc, PhD/Forestry
P. N. J. Corey, BSc, MA, PhD/Public Health Sciences
F. Csillag, MSc, PhD/Geography
H. Cyr, BSc, MSc, PhD/Zoology
A. G. Daniere, MPP, PhD, MCIP/Geography
A. M. Davis, BA, MA, PhD/Geography
G. J. S. Dei, BA, MA, PhD/Sociology & Equity Studies in Education
D. N. Dewees, BSc, LLB, BScEE, PhD/Economics
M. L. Diamond, MSc, PhD/Geography
D. W. Dunham, BS, PhD/Zoology
J. E. Eckenwalder, BA, PhD/Botany
M. Eichler, MA, LLD, PhD/Sociology & Equity Studies in Education
M. D. Engstrom, BS, MS, PhD/Zoology
G. J. Evans, BASc, MASc, PhD, PEng/Chemical Engineering & Applied Chemistry
R. R. Fulthorpe, BSc, MSc, PhD/Botany
W. A. Gough, BSc, MSc, PhD/Geography
H. P. Gunz, BSc, DPhil, PhD/Management
R. I. C. Hansell, BSc, PhD/Zoology
P. A. Harper, BSc, MSc, PhD/Pharmacology
L. D. D. Harvey, BSc, MSc, PhD/Geography
G. S. Henderson, BSc, MSc, PhD/Geology
D. L. Holness, MHSc, MD/Public Health Sciences
T. F. Homer-Dixon, BA, PhD/Political Science
S. Horton, BA, MA, PhD/Economics
K. W. F. Howard, BSc, MSc, PhD/Geology
R. Jaakson, BA, MSc, PhD, MCIP/Geography
C. Q. Jia, BEng, MEng, PhD, PEng/Chemical Engineering & Applied Chemistry
S. Kant, BE, MA, PhD/Forestry
B. W. Karney, BASc, MEng, PhD, PEng/Civil Engineering
J. G. Knowles, BA, MS, PhD/Adult Education, Community Development & Counselling Psychology
N. Kreiger, BA, MPH, MPhil, PhD/Public Health Sciences
U. J. Krull, BSc, MSc, PhD, AstraZeneca Professor of Biotechnology/Chemistry
B. A. Langille, BA, LLB, BCL/Law
H. V. Luong, BA, MA, PhD/Anthropology
S. A. Mabury, BS, PhD/Chemistry
J. F. MacDonald, BSc,PhD/Physiology
L. S. MacDowell, BA, MSc, PhD/History
V. W. Maclaren, BA, MRP, MSc, PhD, MCIP/Geography
J. R. Malcolm, BSc, MSc, PhD/Forestry
L. D. Marrett, BMath, PhD/Public Health Sciences
D. L. Martell, BASc, MASc, PhD/Forestry
A. D. Miall, BSc, PhD, DSc, FRSC/Geology
W. Michelson, AB, AM, PhD, FRSC, S.D. Clark Chair in Sociology/Sociology
G. K. Morris, BSA, MSc, PhD/Zoology
D. S. Munro, BSc, MSc, PhD/Geography
P. J. O'Brien, BSc, MSc, PhD/Pharmaceutical Sciences
E. V. O'Sullivan, BA, MA, PhD/Adult Education, Community Development & Counselling Psychology
A. B. Okey, BSc, MSc, PhD/Pharmacology
J. T. Purdham, BSc, PhD/Public Health Sciences
A. V. Rao, BSc, MSc, PhD/Nutritional Sciences
F. H. Rodd, BSc, MSc, PhD/Zoology
D. R. Rose, BA, PhD/Medical Biophysics
D. N. Roy, BSc, MSc, DPhil, FRSC/Forestry
R. F. Sage, BA, MS, PhD/Botany
M. Sain, BSc, BASc, MTech, PhD, PEng/Forestry
K. R. J. Sandbrook, BA, MA, DPhil, FRSC/Political Science
D. S. R. Sarma, BSc, MSc, PhD/Laboratory Medicine & Pathobiology
A. M. Sass-Kortsak, BSc, MHSc, PhD/Public Health Sciences
L. A. Sawchuk, BA, MA, PhD/Anthropology
D. E. Selby, BA, PhD/Curriculum, Teaching & Learning
B. Sherwood Lollar, BA, PhD/Geology
K. Sieciechowicz, BA, MA, PhD/Anthropology
F. S. Silverman, BSc, MSc, PhD/Medical Science
G. Skogstad, BA, MA, PhD/Political Science
S. M. Smith, BSc, MSc, PhD/Forestry
W. G. Sprules, BSc, MA, PhD/Zoology
I. L. Stefanovic, BA, MA, PhD/Philosophy
R. E. Stren, BA, MA, PhD/Political Science
S. Tarlo, MBBS, MRCP, FRCP(C)/Medical Science
V. R. Timmer, BScF, MScF, PhD/Forestry
C. J. Tuohy, BA, MA, PhD/Political Science
J. P. Uetrecht, BS, MS, MD, PhD, Canada Research Chair/Pharmaceutical Sciences
W. H. Vanderburg, BASc, MASc, PhD, PEng/Mechanical & Industrial Engineering
F. Wania, Dipl-Geoök, PhD/Chemistry

P. G. Wells, BScPhm, PharmD/Pharmaceutical Sciences
R. R. White, BA, MSc, PhD/Geography
***(Director)***
T. M. S. Wolever, BA, BM, BCh, MA, MSc, PhD, DM/ Nutritional Sciences
A. P. Zimmerman, BA, PhD/Zoology

**Members Emeriti**
P. L. Aird, BScAgr, MS, PhD
I. Burton, BA, MA, PhD, FRSC
D. Mackay, ARCST, PhD, FCIC, PEng
R. E. Munn, PhD
D. M. Nowlan, BA, BSc, MA, PhD
H. A. Regier, BA, MS, PhD
J. Svoboda, BSc, PhD
J. B. R. Whitney, PhD, MCIP
G. R. Williams, BSc, PhD, DSc, FRSC

**Associate Members**
D. Balsillie, BSc, MSc, PhD
B. Bass, BA, MSc, PhD
R. Bendayan, BScPharm, PharmD
A. Boland, BA, MAIS, ABD
P. R. Bozek, BASc, MBA, MEng, PhD
D. C. Cole, BSc, MD, MSc
J. Dooley, MASc, PhD
D. Etkin, BSc, BEd, MSc
A. Fenech, BA, MES
S. Gong, BS, MS, MASc, PhD
A. P. Grima, BA, MA, PhD
K. S. Hanna, BA, MA, PhD
H. R. Hosein, BSc, MSc, PhD
G. M. Kalabis, BSc, PhD
C. A. Kennedy, BEng, DIC, MASc, PhD, PEng
W. A. Kenney, BSc, MSc, PhD
G. Krantzberg, BSc, MSc, PhD
S. H. Labatt, BA, MA, PhD
A. R. Maarouf, BSc, MSc
D. C. Macdonald, BA, MA, PhD
H. L. MacLean, BEng, MBA, MSc, PhD, PEng
P. L. McCarney, BA, MCP, PhD
P. R. Muldoon, BA, LLB, MA, LLM
B. W. Murck, BA, PhD
D. Powell, BSc, MBA
S. Prudham, BArtSc, MA, PhD
P. J. Robinson, BA, MPl, PhD
S. E. Salbach, BASc, MASc, PEng
M. Sanderson, BA, MA, PhD
C. B. Sastry, BSc, MSc, MS, PhD
B. I. Savan, BSc, PhD, MCIP
S. Scharper, BA, MA, PhD
M. R. Shimizu, BA, MA
R. Street, BSc, MSc
P. Telford, BSc, PhD
P. Timmerman, BA, MA
J. D. Turnbull, BSc, MSc, PhD, MD, FRCP(C)
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**INTRODUCTION**
The Institute for Environmental Studies (IES) 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 faculties and departments including representatives from engineering, physical sciences, health sciences, biological sciences, forestry, social sciences, and the humanities.

**Environmental Information Office (EIO)**
The principal aim of the Environmental Information Office (EIO) is to facilitate interaction between environmental researchers, teachers, and students at the University of Toronto by providing electronic-based access to environmental information and data by means of World Wide Web technology. Although EIO is administered through the Institute of Environmental Studies, it is the product of cooperation between several academic and non-academic units. Courses are taught at the undergraduate and graduate levels through many different departments and faculties. Environmental research also takes place throughout the University. Since there is no "Department of the Environment", the University is attempting to capture or coordinate activities through EIO, the physical product of which is the Environmental Teaching and Research Home Page for U of T on the Web (www.utoronto.ca/env/ies).
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*Fax:* (416) 978-3884
*E-mail:* judith.wilson@utoronto.ca
*Web:* www.utoronto.ca/env/ies

**Collaborative Programs**
The Institute for Environmental Studies offers the following collaborative programs:
**1** Environmental Studies
**2** Toxicology
**3** Environment and Health

The Division of Environmental Engineering offers a collaborative graduate program in Environmental Engineering. See the separate entry in this calendar.

Students entering a collaborative program must register in one of the home departments and must also register with the Institute. Students planning to begin the program in September should register with the Institute by August 1; students planning to start the program in January should register with the Institute by December 1.

A detailed calendar, *Graduate Studies in the Environment*, is available from the IES address or by e-mail (ies.gradinfo@utoronto.ca).

**Admission Requirements**
Admission is subject to the approval of the graduate home department in consultation with the Institute for Environmental Studies.

## ENVIRONMENTAL STUDIES (COLLABORATIVE PROGRAM)

The graduate units of Adult Education, Community Development and Counselling Psychology; Anthropology; Botany; Chemistry; Curriculum, Teaching and Learning; Economics; Forestry; Geography; Geology; Information Studies; Management; Political Science; Sociology; Sociology and Equity Studies; and Zoology, in conjunction with the Institute for Environmental Studies, offer collaborative graduate programs in Environmental Studies. Discussions regarding collaboration with other departments are in progress.

Departments participating in the program contribute graduate courses and provide supervision for graduate research.

Students in graduate departments not listed above who are interested in the Environmental Studies Collaborative Program should speak to the IES Student Advisor and to their home department's Graduate Coordinator/Graduate Studies Administrator/Chair to discuss this possibility.

Students may pursue an M.A., M.Sc., M.I.St., M.B.A., M.Ed., M.F.C., M.Sc.F., or Ph.D. degree.

Typically, environmental students undertaking a master's degree are required to complete three IES half-courses, two of which are core courses, a thesis (or major research paper and an internship), in addition to, or as part of, the master's program in their department. Environmental students undertaking a doctoral degree are required to complete the two IES core courses plus a thesis in the home department on an environmental topic. Degree requirements vary from department to department; therefore, close consultation between the Institute and the proposed home department at the time of the applicant's admission to the home department is required to determine a suitable collaborative arrangement.

**Program Requirements**
**1** Details of course requirements are available in the *Graduate Studies in the Environment* calendar (www.utoronto.ca/env/ies.htm). Please note that these courses may be used to satisfy the elective requirements of the home department.
**2** Further degree requirements may be determined by the department and/or by the student's supervisor or supervisory committee. These requirements will depend on the background and career goals of the student, as well as on departmental regulations.
**3** An environmentally-related research thesis or major research paper and an internship are normally required. Submit a copy of the final thesis or research paper for the Institute to the Student Advisor.
**4** A supervisor or supervisory committee may be appointed for each student by the home department.

**Graduation Requirements**
The home department, in consultation with the Institute for Environmental Studies, recommends to the School of Graduate Studies that a candidate should graduate following completion of the above program requirements. The student receives, in addition to the master's or Ph.D. degree in their departmental area, the notation "Completed Collaborative Program in Environmental Studies" on the transcript.

**Courses of Instruction**
The Institute offers individual credit courses that are open to graduate students from all parts of the University, subject to enrolment limits.

In addition to the Institute's courses listed below, other courses dealing with environmental topics are offered as part of the regular teaching programs in departments. See the Institute's calendar at www.utoronto.ca/env/ies for further details.

Course outlines and course timetables are available from IES early in September and January and are posted at www.utoronto.ca/

env/ies.htm. Only individual study courses are available during the summer session. There is a plenary meeting of instructors and interested students in early September.

***Core Courses***

IES 1001H Environmental Decision Making
IES 1002H Environmental Management Case Studies

***Contaminants in the Environment***

IES 1410H Analytical Environmental Chemistry
IES 2501H Pollution Prevention and Control
JGN 2607H Advanced Techniques in Hydrogeology
JNC 2503H Environmental Pathways

***Ecology***

JBE 1434H Applied Ecology
JGE 1420H Urban Waste Management

***Environment and Health***

IES 4001Y Graduate Seminar in Environment and Health
CHL 5416H Environmental Epidemiology
CHL 5903H Environmental Health
MSC 4000H Seminars in Environment and Health

***Environmental Education***

CTL 1314H Environmental and Humane Education: Theory and Practice
CTL 1316H Global Education: Theory and Practice I
CTL 1317H Global Education: Theory and Practice II
CTL 1999H Special Topics in Curriculum, Doctoral Level: Environmental and Human Ethics in Education

***Environmental Management***

IES 1700H Environmental Economics
IES 1701H Environmental Law
IES 1703H Water Resources Management
IES 1704H Environmental Risk Analysis and Management
IES 1705H Corporate Perspectives on the Environment
JPV 1201H Politics, Bureaucracy, and the Environment
MIE 1901H Technology, Society, and the Environment I
MIE 1902H Technology, Society, and the Environment II

***Environmental Philosophy***

JVP 2147H Environmental Philosophy
RLG 2019H Religion and the Environment

***Global Change/International Environmental Issues***

IES 1200H Current Issues in Global Environmental Change
IES 1202H Environmental Issues in Developing Countries
IES 1433H The World Summit on Sustainable Development
IES 1706H Natural Hazards and Natural Disasters
JGE 1430H Political Economy of Forest Conservation

***History***

HIS 1111H Topics in North American Environmental History

***Toxicology***

CHL 5912H Industrial Toxicology
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

***Individual Study***

IES 2000H,Y Topics in Environmental Studies
IES 2001H Special Topics—Environmental Studies
IES 2002H Special Topics—Environmental Studies
IES 4444Y Internship
IES 5555Y Research Paper

## TOXICOLOGY—ENVIRONMENTAL AND BIOMEDICAL (COLLABORATIVE PROGRAM)

**Program Committee**

M. J. Wiley, BSc, MSc, PhD/Anatomy & Cell Biology
N. G. Dengler, BA, MS, PhD/Botany
M. T. Kortschot, BASc, MASc, PhD, PEng/Chemical Engineering
S. A. Sheikh, BSc, MASc, PhD/Civil Engineering
K. Domnick, BA, CPH, MSc/Community Health
A. P. Zimmerman, BA, PhD/Division of the Environment
F. S. Silverman, BSc, MSc, PhD/Environment & Health
P. H. Byer, SB, SM, PhD, PEng/Environmental Engineering
R. R. White, BA, MSc, PhD/Environmental Studies
S. M. Smith, BSc, MSc, PhD/Forestry
G. Gad, PhD/Geography
G. S. Henderson, BSc, MSc, PhD/Geology
D. S. R. Sarma, BSc, MSc, PhD/Laboratory Medicine & Pathobiology
D. R. Rose, BA, PhD/Medical Biophysics

J. Miller, MD, MSc, FRCP/Medical Science
R. Reithmeier, BSc, PhD/Medical Science
R. A. Collins, BSc, PhD/Molecular & Medical Genetics
T. M. S. Wolever, BA, BM, BCh, MA, MSc, PhD, DM/Nutritional Sciences
R. Bendayan, PharmD/Pharmaceutical Sciences
P. G. Wells, BScPhm, PharmD/Pharmaceutical Sciences
A. B. Okey, BSc, MSc, PhD/Pharmacology
R. D. Prokipcak, BSc, MSc, PhD/Pharmacology
J. F. MacDonald, BSc, PhD/Physiology
D. W. Dunham, BS, PhD/Zoology
R. I. C. Hansell, BSc, PhD/Zoology

The graduate units of Botany, Chemical Engineering and Applied Chemistry, Civil Engineering, Dentistry, Forestry, Geography, Laboratory Medicine and Pathobiology, Medical Biophysics, Medical Science, Nutritional Sciences, Pharmaceutical Sciences, Pharmacology, Physiology, Public Health Sciences, and Zoology, in conjuction with the Institute for Environmental Studies, participate in the Collaborative Graduate Program in Toxicology. Students may pursue an M.A., M.Sc., M.Sc.F., M.A.Sc., M.Eng., or Ph.D. degree. Departments and institutes participating in the program contribute graduate courses, provide facilities, and provide supervision for graduate research.

Graduate students, from departments other than the participating departments listed, who are interested in pursuing a joint degree in toxicology should speak to the IES Student Advisor and to their home department's graduate advisor(s).

There are two streams in Toxicology: Environmental (Ecotoxicology) and Biomedical.

**Program Requirements**

**1** Details of course requirements are available in the *Graduate Studies in the Environment* calendar (www.utoronto.ca/env/ies.htm). Students are required to take JNP 1016H *Graduate Seminar in Toxicology* and IES 1001H *Environmental Decision Making.* In addition, JBE 1434H *Applied Ecology* is recommended for students in the Environmental Toxicology stream; students in the Biomedical Toxicology stream are encouraged to take either JNP 1017Y *Molecular and Biochemical Basis of Toxicology* ***or*** JNP 1018H *Current Topics in Molecular and Biochemical Toxicology*. Please note that these courses may be used to satisfy the elective requirements of the home department.

**2** Further degree requirements may be determined by the department and/or by the student's supervisor or supervisory committee. These requirements will depend on the background and career goals of the student, as well as on departmental regulations.

**3** Students must 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 toxicology. A copy of the final thesis or project must be submitted to the Student Advisor.

**4** A supervisor or supervisory committee may be appointed for each student by the home department.

**Graduation Requirements**

In consultation with the Institute for Environmental Studies, the home department recommends to the School of Graduate Studies that a candidate should graduate following successful completion of the above program requirements. Upon successful completion of the requirements, the student receives, in addition to the master's or Ph.D. degree in their departmental area, the notation "Completed Collaborative Program in Toxicology" on the transcript.

## ENVIRONMENT AND HEALTH (COLLABORATIVE PROGRAM)

**Program Committee**

K. Domnick, BA, CPH, MSc/Public Health Sciences
A. P. Zimmerman, BA, PhD/Division of Environment
P. H. Byer, SB, SM, PhD, PEng/Environmental Engineering
R. I. C. Hansell, BSc, PhD/Environmental Studies
F. S. Silverman, BSc, MSc, PhD/Environmental Studies ***(Director)***
R. R. White, BA, MSc, PhD/Environmental Studies
G. H. K. Gad, DPhil, PhD/Geography
J. Miller, MD, MSc, FRCP/Medical Science
R. Reithmeier, BSc, PhD/Medical Science

The graduate units of Geography, Medical Science, and Public Health Sciences, in conjunction with the Institute for Environmental Studies, offer a collaborative program in Environment and Health. Students must first be admitted to one of the collaborating graduate units and then must also register with the Institute. Students may pursue a master's or Ph.D. according to home unit regulations.

Graduate students who are interested in taking a collaborative program in environment and health, but who are from units not listed above, should speak to the IES Student Advisor and to their home unit's graduate advisor(s).

**Program Requirements**

**1** Master's students must complete the core course, MSC 4000H *Seminars in Environment and Health*, which is normally offered in the Winter Session.

**2** For degrees which require a thesis or research project, the topic should be within the field of environment and health, as approved by the home department and the Collaborative Program Committee. A copy of the final thesis or project must be submitted to the Institute's Student Advisor.

**3** Further degree requirements may be determined by the graduate unit and/or by the student's supervisor or supervisory committee. These requirements will depend on the background of the student, as well as on the unit's regulations.

**4** Ph.D. students must complete the year-long core course IES 4001Y *Graduate Seminar in Environment and Health* as a credit/non-credit course, and will present a seminar on their thesis topic. The doctoral thesis will focus on a theme in environment and health, and the committee membership will include a supervisor from the student's home department who is a member of the Environment and Health Program and at least one other member from a collaborating graduate unit.

**Graduation Requirements**

The home unit, in conjunction with the Institute for Environmental Studies, recommends to the School of Graduate Studies that a candidate should graduate following completion of the above requirements. In addition to the master's or Ph.D. degree in their unit area, the student receives the notation "Completed Collaborative Program in Environment and Health" on the transcript.

# Ethnic and Pluralism Studies (Collaborative Program)

**Program Committee**
W. M. D. Baker, BComm, MA, PhD/Economics
R. S. Beiner, BA, DPhil/Political Science
A. S. Chambon, BA, MA, BSW, PhD/Social Work
E. W.-C. Fong, BA, MA, PhD/Sociology
H. D. Forbes, BA, MA, PhD/Political Science
J. N. Ingham, BA, MA, PhD/History
P. Klassen, BA, MA, MPhil, PhD/Religion
M. P. Macklem, BA, LLB, LLM/Law
R. N. F. Lee, BScN, MScN, PhD/Nursing Science
M. D. Levin, BA, MA, PhD/Anthropology
J. G. Reitz, BS, PhD/Sociology ***(Director)***
S. Ruddick, BES, MA, PhD, MCIP/Geography
N. J. Weiner, BSB, MA, PhD/Industrial Relations

*Address:*
Robert F. Harney Professorship and Program in Ethnic, Immigration, and Pluralism Studies
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Canada
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*Fax:* (416) 978-3963
*E-mail:* ethplur@chass.utoronto.ca
*Web:* www.utoronto.ca/ethnicstudies

The graduate units of Anthropology, Geography, History, Industrial Relations, Nursing Science, Political Science, Religion, Social Work, and Sociology 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.

Students in the program must apply to and register in one of the participating graduate units and must follow a program of studies acceptable to both the participating graduate unit and the Ethnic and Pluralism Studies Program. 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.

**General Requirements**
Candidates for the degrees of Master of Arts, Master of Industrial Relations, Master of Nursing, Master of Science, Master of Social Work, and Doctor of Philosophy are accepted by the participating graduate unit under the general regulations. Collaborative program requirements may be met concurrent with, or in addition to, departmental requirements. Students should consult specific departmental listings for information.

**Degree of Master of Arts, Master of Industrial Relations, Master of Nursing, Master of Science, or Master of Social Work**

***Program Requirements***
**1** Two half-courses in ethnicity from two different disciplines.
**2** A coordinating seminar in ethnicity. The seminar, which is a half-course, will be 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.
**3** When a practicum is required, it will focus on ethnicity.
**4** It is understood that the major paper or thesis as required by the graduate unit would be in an ethnic studies area.

**Degree of Doctor of Philosophy**

***Program Requirements***
**1** Four half-courses, or equivalent, in ethnicity including the courses taken for the master's degree. At least two of the courses will be in disciplines other than the one in which the student is enrolled.
**2** A coordinating seminar in ethnicity. The seminar, which is a half-course, will be 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.
**3** When the student's graduate unit requires more than one comprehensive examination, one of the examinations will be in ethnicity.
**4** 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.
**5** A Ph.D. thesis will focus on ethnicity. The supervisor of the thesis committee will be a specialist in the area of ethnicity.

**Courses of Instruction**
**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 for course availability.

***Coordinating Seminar***

JTH 3000H Ethnic Relations Theory, Research, and Policy/*J. G. Reitz*

***Anthropology***

ANT 6003H Critical Issues in Ethnography I/*Staff*
ANT 6004H Critical Issues in Ethnography II/*Staff*
ANT 6034H Advanced Research Seminar IV (Ethnicity)/*M. D. Levin*
ANT 6040H Approaches to Field Work I/*R. Lee*
ANT 6041H Approaches to Field Work II/*Staff*
ANT 6050H Reading Course in Specific Area and Theory I/*Staff*

***Economics***

ECO 2800H Labour Economics I (prerequiste: an undergraduate course in statistics and a graduate course in applied statistics)/*M. Baker*

***Geography***

PLA 1503H Planning and Social Policy/*S. Ruddick*
JPG 1506H State/Space/Difference: Understanding the New Social Geography/*S. Ruddick*
GGR 1700H Seminar in Cultural-Historical Geography/*J. H. Galloway*
GGR 1712H Historical Geography of Ethnic Groups in Canada/*D. A. McQuillan*

***History***

HIS 1102H Spiritual Invasion: Natives of the Americas Confront Christianity/*A. Greer*
HIS 1120H Topics in Aboriginal/Non-Aboriginal Relations in Canada/*S. Van Kirk*
HIS 1164H Irish Migration to Canada: Sources and Methods/*M. McGowan*
HIS 1166H Immigrants, Minorities, and the Racialized Other: Canada in a Comparative Context (prerequisite: any previous course in the history of Canada)/*F. Iacovetta*
HIS 1274H The Nazis, Occupied Europe, and the Jews/*M. R. Marrus*
HIS 1287H Polish Jews Since the Partitions of Poland (joint graduate/undergraduate)/*P. Wróbel*
HIS 1528H Crossing Boundaries: Race, Ethnicity, Class, and Gender in America, 1880-1930/*J. Ingham*
HIS 1545H Race, Segregation and Protest: South Africa and the United States/*R. Halpern*

***Industrial Relations***

IRE 3630H Diversity and Inclusiveness in the Workplace/*N. Weiner*

***Law***

LAW 259H Comparative Indigenous Rights/*J. Borrows*
LAW 262H Citizenship Theory and Immigration Law/*A. Shachar*
LAW 294H International Human Rights Law/*M. P. Macklem*
LAW 368H Race and the Law/*K. Rittich*
LAW 370H Aboriginal Peoples and the Law/*K. Wilkins*
LAW 410H Discrimination Law: Equality in the Private Sector/*D. Reaume*

***Nursing Science***

NUR 1013H Transcultural Health Care Issues/*R. Lee*
NUR 1014H Politics of Aboriginal Health/*R. S. Hagey*
NUR 1068H Youth and Mental Health Promotion/*N. Khanlou*

***Political Science***

POL 2001Y Problems of Political Community/*J. H. Carens*
POL 2038Y Problems of Pluralism and Equality/*M. S. Williams*
POL 2127H Canadian Theories of Multiculturalism/*H. D. Forbes*
POL 2324H Ethnonationalism and State-Building: The Communist and Post-Communist Experience/*D. Schwartz*
POL 2413Y Politics, Culture, and Identity in Southeast Asia/*J. Bertrand*

***Religion***

RLG 2037H Religion and Healing/*P. Klassen*
RLG 3931H Topics in North American Religions/*P. Klassen*

***Social Work***

SWK 4210H Promoting Empowerment: Working at the Margins/*L. Davis*
SWK 4617H Cross-Cultural Social Work Practice/*A. K. T. Tsang, K. Richard*
SWK 4658H Social Work with Immigrants and Refugees/*U. George*

***Sociology***

SOC 6009H Ethnicity I/*Staff*
SOC 6109H Ethnicity II/*J. G. Reitz*
SOC 6116H Social Demography II/*E. Fong*

***Theory and Policy Studies in Education***

TPS 1428H Immigration and the History of Canadian Education/*H. M. Troper*
TPS 1429H Ethnicity and the History of Canadian Education/*H. M. Troper*
TPS 3428H Minority Concerns and Education in Canadian History: Selected Topics/*H. M. Troper*

# Exercise Sciences EXS

## Graduate Faculty

### Full Members

K. R. Allison, BSc, BPHE, MASc, MSc, PhD
G. F. J. R. Buick, BSc, MSc, PhD
K. R. Chapman, MSc, MD
P. N. J. Corey, BSc, MA, PhD
P. A. Donnelly, BA, MS, PhD
G. R. Fernie, BSc, PhD, PEng, CCE
J. Frim, BSc, MSc, PhD
R. C. Goode, BPhE, BA, MA, DPhil
J. M. Goodman, BPHE, MSc, PhD
L. S. Goodman, BPHE, MPE, PhD
L. F. Hamm, BA, MA, PhD
R. J. Heslegrave, PhD
I. Jacobs, DipPE, MHK, DMedSci
T. Kavanagh, MD, FRCP(C)
G. A. Kerr, BPHE, MA, PhD
B. Kidd, BA, AM, MA, PhD
***(Dean)***
L. M. Leith, BA, MA, PhD
H. Lenskyj, BA, MA, PhD
M. Locke, BA, BSc, PhD
M. E. MacNeill, BPHe, MA, PhD
N. H. McKee, MD, FRCS(C)
T. M. McLellan, BSc, BA, BEd, MA, PhD
M. J. Plyley, BSc, PhD
C. D. Rodgers, BPE, MHK, PhD
***(Associate Dean, Graduate Studies)***
P. N. Shek, BSc, MSc, PhD
F. S. Silverman, BSc, MSc, PhD
S. G. Thomas, BSc, MSc, PhD

### Members Emeriti

M. W. M. Radomski, BSc, MSc, PhD
R. J. Shephard, MBBS, MD, BSc, PhD, DPE, FACSM, FFISM

### Associate Members

P. Comper, PhD, CPsych
M. J. De Souza, BS, MS, PhD
M. Ducharme, PhD
C. E. James, BA, MA, PhD
P. Klentrou, BSc, MSc, PhD
L. M. Mainwaring, BA, BHK, MHK, PhD, CPsych
B. G. Pronger, BA, MSc, PhD
J. Reading, BPE, MSc, PhD
S. Rhind, BPHE, MSc, PhD
P. Tikuisis, BSc, MSc, PhD
J. L. Van Heest, BA, MSc, PhD

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*Web:* www.utoronto.ca/physical/

## Degree of Master of Science

Students are admitted to the interdisciplinary field of exercise sciences under the general regulations of the School of Graduate Studies.

More specific program details, requirements, course descriptions, and a supplementary application form are available from the Graduate Department of Exercise Sciences. Applications must be submitted by February 1.

The Department of Exercise Sciences offers Master of Science and Doctor of Philosophy programs for students interested in research, academic, and professional careers relating to:
Applied/exercise/environmental physiology
Metabolic and endocrinological aspects of physical activity
Muscle physiology
Physical fitness
Psychological aspects of sports and physical activity
Psychophysiological aspects of exercise and stress
Sociocultural aspects of sport and physical activity

### *Admission Requirements*

Candidates should have a four-year degree, or its equivalent, in physical education and health or a related discipline from a recognized university.

### *Program Requirements*

**1** The completion of all degree requirements within five years of first registration in the program.
**2** The successful completion of five half-courses, including one of EXS 5503H, EXS 5516H, or EXS 5518H; at least one other half-course from the Exercise Sciences offerings; and one half-course in an appropriate methodology. All courses must be approved in advance by the student's supervisor and the Graduate Department of Exercise Sciences.
**3** The writing of a thesis under the supervision of a thesis committee (supervisor and at least two additional faculty members) and its defence

before an examination committee appointed by the Graduate Department of Exercise Sciences.
**4** Part-time study is available. The student's annual program plan must be approved by the supervisor and the Graduate Department of Exercise Sciences.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Candidates applying to the Ph.D. program normally will be expected to have completed a M.A. or M.Sc. with a thesis in a related field and provide satisfactory references pertaining to their academic and research abilities.

### *Program Requirements for Full-Time Ph.D.*

**1** Full-time registration (fall, spring, summer terms) for the first four years of the doctoral program.
**2** Completion of all degree requirements within six years from first registration in the program. Thereafter, candidates may apply for a maximum of two extensions.
**3** The successful completion of six half courses, including one of EXS 5503H, EXS 5516H, or EXS 5518H; at least two other half-courses from the Exercise Sciences offerings; and one half-course in an appropriate methodology. All courses must be approved in advance by the student's supervisor and the Graduate Department of Exercise Sciences.
**4** The successful completion of a comprehensive examination.
**5** The 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.
**6** The oral defence of the thesis before an examination committee appointed by the School of Graduate Studies.

### *Program Requirements for Flexible-Time Ph.D.*

With the approval of the Associate Dean, Graduate Education and Research, some applicants may be admitted to a flexible-time Ph.D. program. This program will benefit mature students with career and/or familial obligations. The degree requirements for the flexible-time program are identical to those listed above for the full-time Ph.D. program; however, 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. A plan of study and research activities will be negotiated at initial registration, to be reviewed and updated annually.

### Collaborative Programs

Exercise Sciences participates in the following collaborative programs:
Cardiovascular Sciences
Women's Studies
For details, consult the separate entries in this calendar.

### Courses of Instruction

| | |
|---|---|
| CHL 5807H | Health Communications/*M. E. MacNeill, L. Hershfield* |
| EXS 5501H | Physical Activity and Aging/ *R. C. Goode* |
| EXS 5502H | Physical Activity and Child Health/*R. C. Goode* |
| EXS 5503H | Adaptations to Habitual Activity/ *S. Thomas* |
| EXS 5506H | Metabolism and Endocrine Function in Exercise/*C. D. Rodgers* |
| EXS 5508H | Cardiovascular Disease and Exercise/*J. M. Goodman* |
| EXS 5509H | Applied Muscle Physiology and Biochemistry/*M. Locke* |
| EXS 5510H | Respiratory Control and Mechanics During Exercise and in Special Environments/*R. C. Goode, S. G. Thomas* |
| EXS 5516H | Exercise Psychology/*L. M. Leith* |
| EXS 5517H | Public Policy and Physical Activity in Canada/*B. Kidd* |
| EXS 5518H | Theoretical Issues in the Sociocultural Study of Physical Activity and Health/*P. A. Donnelly* |
| EXS 5519H | Theories of the Body and Transcendence/*B. Pronger* |
| EXS 5520H | Positive Psychology: Psychosocial Factors in Optimal Health and Wellness/*L. M. Mainwaring* |
| EXS 5521H | Stress and Coping/*G. A. Kerr* |
| EXS 7001H | Directed Reading in Exercise Sciences |
| EXS 7002H | Approved Research Project in Exercise Sciences |
| PSL 1056H | Physiological Basis of Adaptation/ *R. C. Goode* |
| SES 1985H | Women's Learning, Women's Health Movements, and the Health Professions/*H. Lenskyi* |
| SES 2999H | Special Topics in Sociological Research in Education: Diversity and Social Justice Issues in Physical Education, Recreation and Sports/*H. Lenskyi* |

# Forestry FOR

## Graduate Faculty

### Full Members

R. A. Berry, BA, PhD, FRSC
T. J. Blake, BScF, STB, MF, PhD, DipFor
R. B. Bryan, BA, PhD
***(Chair)***
T. J. Carleton, BSc, MSc, PhD
J. Caspersen, BA, PhD
P. A. Cooper, BScF, MSc, PhD
***(Coordinator of Graduate Studies)***
F. Csillag, MSc, PhD
J. E. Eckenwalder, BA, PhD
M.-J. Fortin, BSc, MSc, PhD
V. J. Higgins, BSc, MSc, PhD
P. A. Horgen, BA, MS, PhD
S. Kant, BE, MA, PhD
M. T. Kortschot, BASc, MASc, PhD, PEng
S. Laaksonen-Craig, MSc, PhD
J. R. Malcolm, BSc, MSc, PhD
D. L. Martell, BASc, MASc, PhD
A. G. Price, BSc, MSc, PhD
D. W. Reeve, BSc, MASc, PhD, DTechHC, FCIC, FTAPPI, PEng, Frank Dottori Chair in Pulp and Paper Engineering
R. F. Sage, BA, MS, PhD
M. Sain, BSc, BASc, MTech, PhD, PEng
S. M. Smith, BSc, MSc, PhD
J. K. Spelt, BASc, MASc, ME, PhD, PEng
R. E. Stren, BA, MA, PhD
S. Thomas, BA, PhD
V. R. Timmer, BScF, MScF, PhD
R. R. White, BA, MSc, PhD
N. Yan, BASc, PhD

### Members Emeriti

P. L. Aird, BScAgr, MS, PhD
J. J. Balatinecz, BSF, MF, PhD
D. C. F. Fayle, BScF, DipFor, PhD
M. Hubbes, DipIngAgr, DrAgr
D. N. Roy, BSc, MSc, DPhil, FRSC
L. Zsuffa, BScF, PhD

### Associate Members

D. Balsillie, BSc, MSc, PhD
I. M. Bellocq, LIC, PhD
W. G. Cole,
S. J. Colombo, BScF, MScF, PhD
P. de Groot, BScF, PhD
M. Dumas, BSc, MScF, PhD
R. A. Fleming, BSc, PhD
D. McLaughlin, BScF, MScF
H. Morin, PhD
J. de J. Navar C., BScF, MScF, PhD
B. J. Naylor, BScF, PhD
J. Ray, BS, MS, PhD
J. Régnière, BSc, PhD
C. B. Sastry, BSc, MSc, MS, PhD
P. C. Schleifenbaum, Dr
H. Spiecker, Dr
B. Stocks, BSc, MScF
J. J. Turgeon, BSc, PhD
I. Vertinsky
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The Faculty of Forestry offers degree programs leading to the Master of Forest Conservation (M.F.C.), the Master of Science in Forestry (M.Sc.F.) and the Doctor of Philosophy (Ph.D.). Forestry also participates in collaborative graduate programs in Environmental Studies, Environmental Toxicology, and in Wood Products Engineering. See details below.

The M.F.C., the Faculty's professional master's degree, is an intensive 16-month course-oriented 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 M.Sc.F. and Ph.D. programs are research/thesis-based degrees in areas of specialization relevant to faculty expertise and funding including, but not limited to, biodiversity conservation, sustainable forest management, forest fragmentation, wildlife habitat conservation, community forestry, forest management certification, forest ecological processes, fire management systems, forest soils and tree nutrition, tree physiology and stress, soil conservation, land reclamation, biological pest control, wood science and forest products.

For admission to its degree programs, the Faculty considers candidates from a variety of undergraduate backgrounds including forestry; applied science and engineering; and social, physical, and biological sciences.

## Degree of Master of Forest Conservation

### *Admission Requirements*

**1** Candidates are admitted under the general regulations of the School of Graduate Studies.
**2** Candidates must have an honours or specialist bachelor's degree with a minimum of mid-B standing in the final two years of the bachelor's program. The M.F.C. 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.
**3** Applicants must submit additional documentation to the department with completed application forms and transcripts, including three references, a letter of interest in the M.F.C. program, and a résumé. Full instructions and forms are available via the Faculty's Web site.

### *Program Requirements*

The 16-month program (1.5 winter sessions) starts in September and requires full-time intensive involvement throughout. The program comprises a core of ten integrated half-courses, one residential field camp course (FOR 3011H), two elective half-courses, and an internship (FOR 3007H) during the summer semester in which students will work on practical forest conservation projects, either in Canada or abroad.

Information on specific course requirements and program schedules is included in the departmental brochure.

## Degree of Master of Science in Forestry

### *Admission Requirements*

**1** Candidates are admitted under the general regulations of the School of Graduate Studies.
**2** A candidate must have an 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 programs.
**3** Applicants must submit additional documentation to the department with completed application forms and transcripts, including three references, a letter of intent, a résumé, and a "writing sample". Full instructions and forms are available via the Faculty's Web site.

### *Program Requirements*

The program is prepared by the candidate 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.

The minimal requirements for this degree are:
**1** Twelve months of residence including two academic terms.
**2** Three half-courses, at least one of which is taken within the Faculty, plus, in the case of students with non-forestry backgrounds, one of

FOR 3000H Current Issues in Forest Conservation,
FOR 3002H Applied Forest Ecology,
FOR 3003H Socioeconomic Influences on Forest Ecosystems,
FOR 3004H Forest Management Decision Support Systems,
FOR 3009H Global Forest Ecosystem Conservation,

or

FOR 3010H Sustainable Forest Management and Certification,

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.
**3** Credit in FOR 1000H *Research Methods in Forestry* and FOR 1001H *Graduate Seminar*.
**4** The preparation of a research thesis of acceptable quality and its oral defence.
**5** All requirements for the M.Sc.F. degree must be completed within five years from the date of first enrolment in the program.

## Degree of Doctor of Philosophy

### *Admission Requirements*

**1** Admission to a four-year Ph.D. program in the Faculty of Forestry normally requires 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.
**2** In exceptional circumstances, admission to a Ph.D. program may be approved for an extraordinarily strong applicant with an appropriate four-year University of Toronto bachelor's degree, or equivalent from a recognized university.

**3** Applicants must submit additional documentation to the department with completed application forms and transcripts, including three references, a letter of intent, a résumé, and a "writing sample". Full instructions and forms are available via the Faculty's Web site.

***Transfer from M.Sc.F. to Ph.D.***
Under certain specific conditions, outstanding registered M.Sc.F. students may be considered at the end of their first year in the M.Sc.F. program for transfer to the Ph.D. program. Further information is available from the Faculty.

***Program Requirements***
The minimal requirements for the Ph.D. are:
**1** Study in one major and at least one minor field. A minimum of four half-courses must be taken in total, including at least one full course in each of the major and the minor areas; a minor outside forestry is strongly recommended. Depending on the student's background, additional or alternative course work may be required.
**2** Credit in FOR 1001H *Graduate Seminar.*
**3** A student who is approved for transfer from the M.Sc.F. to the Ph.D. is required to complete the total of the M.Sc.F. and the above Ph.D. course requirements, that is, at least seven half-courses including one major and at least one minor field.
**4** For students with a non-forestry background, credit in one of
FOR 3000H Current Issues in Forest Conservation,
FOR 3002H Applied Forest Ecology,
FOR 3003H Socioeconomic Influences on Forest Ecosystems,
FOR 3004H Forest Management Decision Support Systems,
FOR 3009H Global Forest Ecosystem Conservation,
or
FOR 3010H Sustainable Forest Management and Certification,
on the recommendation of the student's supervisory committee and approval of the Graduate Coordinator.
**5** Successful completion of a comprehensive examination. This will ordinarily be taken after course work is completed and at least one year before submission of the thesis.
**6** The preparation and defence of a thesis that is an original and independent research work adding significantly to the existing body of knowledge.
**7** A full-time commitment is expected for a minimum of the first two years in the forestry program.

## Collaborative Programs

***Environmental Studies—M.F.C. and M.Sc.F.***
Forestry and a number of other graduate divisions, in conjunction with the Institute for Environmental Studies, offer collaborative master's programs in environmental studies.

Upon successful completion of the requirements, the student receives, in addition to the degree, the notation "Completed Collaborative Program in Environmental Studies" on the transcript.

Requirements for this certification include the normal degree requirements outlined above with an extended residence requirement. Course selections must include IES 1001H *Environmental Decision Making* and IES 1002H *Environmental Management Case Studies*.

Thesis research programs will be guided by a supervisor and supervisory committee including at least one member cross-appointed between the Faculty of Forestry and the Institute for Environmental Studies.

For a full description of this program, see the Environmental Studies (Collaborative Program) entry in this calendar.

***Toxicology—M.Sc.F. and Ph.D.***
Forestry also participates in the Collaborative Graduate Program in Toxicology at the M.Sc.F. and Ph.D. levels.

Upon successful completion of the appropriate degree requirements, the student receives, in addition to the M.Sc.F. or Ph.D. degree in forestry, the notation "Completed Collaborative Program in Toxicology" on the transcript.

At the M.Sc.F. level, students in the collaborative toxicology program must meet the normal M.Sc.F. requirements by taking three graduate half-courses including JNP 1016H *Graduate Seminar in Toxicology* and either JNP 1017H *Molecular and Biochemical Basis of Toxicology* or JNP 1018H *Current Topics in Molecular and Biochemical Toxicology* and at least one half-course in forestry. An ecology course (e.g., JBE 1434H *Applied Ecology*) may also be required.

At the Ph.D. level, the collaborative toxicology program encompasses the Faculty's Ph.D. requirements described above with the course load to normally include JNP 1016H *Graduate Seminar in Toxicology*, either JNP 1017H *Molecular and Biochemical Basis of Toxicology* or JNP 1018H *Current Topics in Molecular and Biochemical Toxicology*, an ecology course (e.g., JBE 1434H *Applied Ecology*), and at least one graduate half-course in forestry.

The thesis topic, at both the M.Sc.F. and Ph.D. levels, must be in the toxicology area.

See the Toxicology entry (found under Environmental Studies) in this calendar.

### *Wood Products Engineering—M.Sc.F./ M.A.Sc.*

Forestry, Chemical Engineering and Applied Chemistry, and Mechanical and Industrial Engineering collaborate to offer a master's program in Wood Products Engineering. For more details, consult the separate entry under Wood Products Engineering in this calendar.

### Courses of Instruction

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 term 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 (CR/NCR)/*P. A. Cooper, T. J. Blake*
FOR 1001H° Graduate Seminar (CR/NCR)/ *P. A. Cooper, T. J. Blake*
FOR 1060H Soil Fertility and Tree Nutrition/ *V. R. Timmer*
FOR 1280H Wood Products and Processing/ *P. A. Cooper*
FOR 1282H Wood Chemistry/*M. Sain, N. Yan*
FOR 1284H Bonding and Adhesion Technology/*N. Yan*
FOR 1286H Natural Fibre Production Technology/*M. Sain, N. Yan*
FOR 1288H Wood Composites Processing/ *M. Sain*
FOR 1290H Wood Material Science/*P. A. Cooper, Staff*
FOR 1292H Long Term Performance and Durability of Wood-Based Materials/*P. A. Cooper, M. Sain, N. Yan*
JFE 1300H Wood Products Engineering Internship (CR/NCR)/*Staff*
FOR 1311H Physiological Ecology of Woody Plants/*T. J. Blake*
FOR 1320H Silviculture/*S. Thomas*
FOR 1321H Stand Structure and Dynamics/*S. Thomas*
FOR 1325H Tree Biology and Arboriculture/ *Staff*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/NoCredit

FOR 1331H Advanced Forest Entomology/ *S. M. Smith*
FOR 1412H Natural Resource Management I (Directed Studies Course)/*Staff*
FOR 1413H Natural Resource Management II (Directed Studies Course)/*Staff*
FOR 1414H Forest Fire Management Systems/*D. L. Martell*
FOR 1415H Decision-Making in Forest Management/*D. L. Martell*
JFG 1417H Dryland Environmental Management/*R. B. Bryan*
JBF 1436H Forest Landscape Ecology and Methods/*T. J. Carleton*
FOR 1460H Communities and Community-Based Forest Management Systems/*S. Kant*
FOR 1555H Wildlife Ecology and Conservation/*J. Malcolm*
FOR 1570H Ecological Principles of Agroforestry/*Staff*
FOR 1575H Urban Forest Conservation/*W. A. Kenney*
FOR 1580H Ecology, Management, and Conservation of Tropical Forests/ *T. J. Blake*
FOR 1610H Forest Policy Development and Issues/*D. Balsillie*
FOR 1900H Advanced Topics in Forestry I (Directed Studies Course)/*Staff*
FOR 1901H Advanced Topics in Forestry II (Directed Studies Course)/*Staff*
FOR 3000H Current Issues in Forest Conservation/*R. Bryan*
FOR 3001H Biodiversity of Forest Organisms/ *T. J. Carleton*
FOR 3002H Applied Forest Ecology/*S. Thomas*
FOR 3003H Socioeconomic Influences on Forest Ecosystems/*S. Kant*
FOR 3004H Forest Management Decision Support Systems/*D. L. Martell*
FOR 3005H Stresses in the Forest Environment/*T. J. Blake*
FOR 3006H Case Study Analysis in Forest Management/*B. Zimmerman, R. Bryan*
FOR 3007H Internship in Forest Conservation (CR/NCR)/*D. L. Martell*
FOR 3008H Research Paper in Forest Conservation/*T. J. Blake*
FOR 3009H Global Forest Ecosystem Conservation/*J. R. Malcolm, B. Zimmerman*
FOR 3010H Sustainable Forest Management and Certification/*D. Balsillie*
FOR 3011H International Forest Conservation Field Camp/*S. C. Thomas, S. M. Smith*

# French Language and Literature FRE

## Graduate Faculty

### Full Members

P. M. Bhatt, BA, MA, PhD
A.-M. Brousseau, PhD
F. I. Case, MA, D de L'U
D. Clandfield, BA, MA, PhD, D IIIe
H. S. F. Collins, MA, PhD
A. Cozea, BA, MA, PhD
M. Danesi, BA, MA, PhD, FRSC
D. de Kerckhove, BA, MA, PhD, Dip 3ème Cycle, FRSC
C. Elkabas, BA, MA, PhD
P. Fitting, MA, PhD
B. Havercroft, BA, MA, PhD
L. Kerslake, AM, PhD
***(Associate Chair and Coordinator of Graduate Studies)***
R. J. Le Huenen, L ès L, DES, DenPh, ChPA
J. D. LeBlanc, MA, PhD
M. Lord, BA, MA, PhD
P. Martin, IRAL BR, D IIIe C, DSCA
D. Massam, BA, MA, PhD
B. S. Merrilees, MA, D de L'U
J. Ndayiragije, BA, MA, PhD
E. Nikiema, MA, PhD
M. O'Neill-Karch, MA
W. A. Oliver, MA, PhD, D de L'U
J. M. Paterson, MA, PhD, FRSC
***(Chair)***
P. J. G. O. Perron, BA, D de L'U, ChPA, FRSC
Y. Roberge, BA, MA, PhD
D. A. Trott, BA, MA, PhD
T. R. Wooldridge, BA, D de L'U

### Members Emeriti

C. Bertrand-Jennings, L ès L, PhD
P. A. R. Bouissac, L ès L, DES, D en Ph
N. T. Boursier, DES, CAPES, D IIIe C
C. Cloutier-Wojciechowska, L ès L, DES, MA, MPh, DPS, DUP
J. A. Dainard, MA, PhD
L. E. Doucette, BA, PhD
A. G. Falconer, MA, D de L'U
B. T. Fitch, BA, D de L'U, FRSC, University Professor
J. A. Fleming, BA, MA, PhD
P. R. Grillo, AM, PhD
C. M. Grisé, MA, PhD, ChPA
E. A. Heinemann, MA, PhD
E. Kushner, MA, PhD, FRSC
E. Lehouck, AGR ESS, D Phl
P. R. Léon, L ès L, D de L'U, D ès L, D Hon Causa, ChPA, OPA, FISPSc, FRSC
N. Maury, L en D, D IIIe C
J. A. McClelland, MA, PhD
O. J. Miller, MA, D de L'U
P. W. Nesselroth, MA, PhD, ChPA
A. Rosenberg, MA, PhD
J. Savona, L ès L, DES, CAPES, D de L'U
H. G. Schogt, MA, PhD, FRSC
B.-Z. Shek, MA, PhD
D. W. Smith, BA, PhD, FRSC
J.-C. Susini, L ès L, DES, CAPES, AGR de L'U
R. A. Taylor, MA, PhD
C. D. E. Tolton, BA, AM, PhD
J. A. Walker, MA, PhD

### Associate Members

Y. Bénayoun-Szmidt, BA, MA, PhD
B. Bolduc, BA, MA, PhD
J. P. Carley, BA, MA, PhD
J. Cotnam, BA, BPh, L ès L, DES, PhD
S. Crosta, PhD
E. G. Csapo, BA, MA, PhD
R. Gibbs, BA, MA, PhD
E. Jennings, BA, MA, PhD
T. Lahusen, BA, MA, PhD
P. Michelucci, MA, PhD
A. Motsch, MA, PhD
M. E. Nyquist, BA, MA, PhD
J. W. O. Patrick, BA, MA, PhD
A. Perez-Leroux, BA, MA, PhD
Y. Portebois, MA, PhD, Canada Research Chair
M. Randall, BA, MA, PhD
C. Roulston, BA, MA, PhD
R. Runte, BA, MA, MPh, PhD
R. Sarabia, BA, MA, PhD
D. Speirs, BA, MA, PhD
J. Steeles, BA, MA
H. Wu, BA, MA, PhD

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All applicants must arrange for two supporting letters to be sent to the Department; admission to all programs for post-graduate degrees will be based upon the evidence of these supporting letters as well as upon the candidate's academic record.

All incoming students will meet with the Associate Chair or the Graduate Secretary to discuss the program and to decide on their course of study before beginning classes.

## Degree of Master of Arts

### *Admission Requirements*

Candidates are accepted under the general regulations. They must also meet the following requirements.

**1** B+ average standing or better, with at least B+ in French.

**2** Competence in French.

**3** 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 cover at least two different areas in the intended field of study (i.e., literature or linguistics).

A B+ average does not automatically lead to admission. Each dossier is studied by the Admissions Committee which takes into account all relevant factors.

### *Program Requirements*

The M.A. program is both a self-contained program and the first stage towards doctoral studies. It has two objectives: to allow the student to develop a thorough knowledge of the discipline through a program of course work in literary studies or linguistics; to develop an aptitude for research. It is a twelve-month program. At the beginning of his/her course of study the student will meet 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.

**1** Courses

**a** The graduate seminar in literature or the graduate seminars in linguistics (FRE 1103H and FRE 1104H) are required. Part-time students will normally take these courses in the first year of their programs.

**b** Six half-courses, or equivalent, from the regular graduate offerings or four half-courses, or equivalent, and an M.A. Essay FRE 5000Y, a 75 page *mémoire* (the normal program for the student who intends to proceed to the doctorate). Up to one full course may be taken outside the Department.

**2** Prerequisite work, if necessary.

**3** Students must maintain a B average in order to be recommended for the degree, and must obtain a minimum of mid-B in the M.A. essay. Students must also obtain a minimum of mid-B for the graduate seminar in literature or the graduate seminars in linguistics (FRE 1103H and FRE 1104H).

## Degree of Doctor of Philosophy

### *Admission Requirements*

**1** At least A- standing in an M.A. program, plus strong recommendation from faculty members. An M.A. or equivalent with A- average does not automatically lead to admission. Each dossier is studied by the Admissions Committee which takes into account all relevant factors.

**2** Candidates for admission to the Ph.D. program must submit to the Department of French a formal application and a typewritten 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 are required to submit a copy of their M.A. thesis, if available, or sample chapters or specimens of written work completed as part of the M.A.

### *Program Requirements*

The degree is offered in either French Literature/Linguistics or Romance Languages and Literatures.

*French Literature/Linguistics*

**1** Residence. Two years of residence are required. During this period, students complete course work, language requirements, and the Field examination. The student must be geographically available, visit the campus regularly, and must register as a full-time student.

**2** Course work. Three full-course equivalents to be taken during the first year of residence. With the permission of the Department, one half-course may be taken outside the Department.

Included in the three full-course equivalents taken by students in literature will be the graduate seminar in literature (FRE 1200Y) if not already taken and *Methods of Research* (FRE 1201H). Included in the three full-course equivalents taken by students in linguistics will be the graduate seminars in linguistics (FRE 1103H and FRE 1104H) if not already taken and *Methods of Research* (FRE 1201H).

Candidates must maintain an A- average in order to remain in the program.

**3** Thesis topics. By January 31 of the first year of residence, the student must register a thesis topic with the Department.

**4** Language Requirements. Demonstrated reading knowledge of Old French or another language (excluding French or English) normally to be completed by the end of the first year in the Ph.D.

**5** Field examination. The examination is taken at the beginning of the first session of the second year of residence and has two parts:
**a** a written examination (to be taken by October 1) designed to test the student's knowledge of the general area in which his/her research is located: the questions for the examination are given to the student a week in advance of the examination;
**b** an oral examination (to be taken by December 15) based on a written thesis proposal of 15 to 20 pages plus bibliography designed to test the student's readiness to proceed with research for the thesis.
**6** Thesis and oral examination on the thesis.

*Romance Languages and Literatures*
The program for the Ph.D. in Romance Languages and Literatures is administered by a committee representing the Departments of French Language and Literature, Spanish and Portuguese, and Italian Studies.

All programs must be approved by the Romance Committee.
**1** Two years' residence, during which time the student is required to be on campus full-time and consequently in such geographical proximity as to participate fully in the activities of the program.
**2** A major subject in either Romance Languages or Romance Literatures.
**a** At least five full courses or equivalent must be taken in the major subject, which must include offerings from all three Romance departments.
**b** If the major is Romance languages, the first minor must be Romance literature. Two full courses, or equivalent, of this minor must be taken from the offerings of at least two of the three Romance departments.
**c** If the major is Romance literatures, the first minor must be Romance languages. Two full courses, or equivalent, of this minor must be taken from two of the three Romance departments.
**3** Two minor subjects.
**a** The first minor must be as indicated under **2b** or **2c** above.
**b** The second minor may also be drawn from two of the three Romance departments or from an associated field.
**4** Language requirements. In addition to a knowledge of French and German, which must be demonstrated within the first year of registration as a Ph.D. candidate, students must satisfy the committee that they have a reading knowledge of Italian, Spanish, and Latin sufficient to enable them to use scholarly works, and an oral and written command of their principal Romance language.
**5** Thesis and oral examination of the thesis.

**Collaborative Programs**
The Department of French participates in the following collaborative programs:
**1** Book History and Print Culture
**2** Semiotics
**3** Women's Studies
Each of these programs has its own entry in this calendar and interested students should refer to these entries.

**Courses of Instruction**
All courses meet once a week for two hours. Courses begin in the same week as do undergraduate classes.

***Linguistics Courses***

| | |
|---|---|
| FRE 1103H | Séminaire de linguistique I: phonologie et morphologie/ *P. Bhatt* |
| FRE 1104H | Séminaire de linguistique II: syntaxe et sémantique/ *Y. Roberge* |
| FRE 1106H | Neurolinguistique/*P. Bhatt* |
| FRE 1113H | Analyses syntaxiques et variation dialectale/*Y. Roberge* |
| FRE 1132H | Problèmes de phonologie: les créoles à base lexicale française/*E. Nikiema* |

***Linguistic and Literature Courses***

| | |
|---|---|
| JRL 1100Y | Introduction to Romance Philology/*Staff* |
| FRE 1122H | Didactique de la lecture/ *P. Michelucci* |
| FRE 1114H | Traduction assistée par le Web/ *R. Wooldridge* |
| FRE 1164H | Medieval French Language and Literature/*B. Merrilees* |
| FRE 1201H | Méthodes de recherche (CR/NCR)/*B. Bolduc* |

***Literature Courses***

| | |
|---|---|
| FRE 1200Y | Séminaire de littérature/*J. Paterson* |
| FRE 1303H | L'Anglo-Normand/*B. Merrilees* |
| FRE 1709H | Racine et le théâtre (néo) classique/*B. Bolduc* |
| FRE 1808H | Théâtre et théâtralité au 18e siècle: Marivaux et ses contemporains/*D. Trott* |
| FRE 1902H | Théorie et pratique du roman de Constant à Flaubert/*P. Perron* |

(CR/NCR) Credit/No Credit

FRE 1903H Emile Zola: ses éditeurs et ses traducteurs/*D. Speirs*
FRE 1924H Balzac et le discours préfaciel/ *R. Le Huenen*
FRE 2005H Le monologue intérieur/*A. Oliver*
FRE 2035H Autour de l'intime en France: les écrits contemporains des femmes/*B. Havercroft*
FRE 2100H Du texte à l'image/*J. LeBlanc*
FRE 2103H La nouvelle québécoise contemporaine: l'émergence des voix féminines/*M. Lord*
FRE 2104H Théâtre québécois: le théâtre dans le théâtre/*M. O'Neill-Karch*
COL 2155H Aspects of Structuralism/*R. Le Huenen*
COl 5014H A Hermeneutical Approach to Contemporary Texts/*B. Fitch*

***Other Courses***
FRE 4000H Reading Course/*Staff*
FRE 5000Y M.A. Essay/*Staff*

# Geography GGR

## Graduate Faculty

### Full Members

C. G. Amrhein, BSc, PhD, MCIP
L. S. Bourne, BA, MA, PhD, FRSC, MCIP, Hon Causa
J. N. H. Britton, BA, MA, PhD
R. B. Bryan, BA, PhD
M. Bunce, BA, PhD
J. M. Chen, BSc, PhD
F. Csillag, MSc, PhD
A. G. Daniere, MPP, PhD, MCIP
A. M. Davis, BA, MA, PhD
J. R. Desloges, BES, MSc, PhD
***(Chair)***
M. L. Diamond, MSc, PhD
R. J. DiFrancesco, MA, PhD, MCIP
G. Gad, DrPhil, PhD
J. H. Galloway, BA, MA, PhD
M. S. Gertler, BA, MCP, PhD, MCIP, Goldring Chair in Canadian Studies (UC)
W. A. Gough, BSc, MSc, PhD
B. Greenwood, BSc, PhD, Hon Causa
L. D. D. Harvey, BSc, MSc, PhD
C. J. Houston, BA, MA, PhD
R. Jaakson, BA, MSc, PhD, MCIP
R. D. Lewis, BA, MA, PhD
***(Coordinator of Graduate Studies)***
V. W. Maclaren, BA, MRP, MSc, PhD, MCIP
T. F. McIlwraith, BA, MA, PhD
D. A. McQuillan, BA, MA, PhD, DipEd
J. R. Miron, BA, MA, MSc, PhD
D. S. Munro, BSc, MSc, PhD
A. G. Price, BSc, MSc, PhD
E. C. Relph, BA, MPh, PhD
V. Robinson, MS, PhD
S. Ruddick, BES, MA, PhD, MCIP
M. J. Salloum, BSc, PhD
R. R. White, BA, MSc, PhD

### Members Emeriti

I. Burton, BA, MA, PhD, FRSC
W. Dean, MA, PhD
F. K. Hare, CC, OO, BSc, PhD, LLD, DSc, DSLitt, DLitt, FKC, FRSC, University Professor Emeritus
D. Kerr, MA, PhD
J. T. Lemon, MS, PhD
S. T. Roweis, MSc, PhD
J. W. Simmons, MA, PhD
A. Waterhouse, MSc, PhD, MCIP
J. B. R. Whitney, PhD, MCIP

### Associate Members

A. Boland, BA, MAIS, ABD
B. A. Branfireun, HBA, MSc, PhD
P. Byer, BSc, MSc, PhD
S. A. Cowling, BSc, MSc, PhD
K. E. Duncan, PhD
K. V. L. England, MA, PhD
D. Etkin, BSc, BEd, MSc
E. Gilbert, BA, MA, PhD
K. Goonewardena, BSc, MPl, PhD
A. P. Grima, BA, MA, PhD
C. Gubala, PhD
J. Hackworth, BA, MA, MEP, PhD
M. Haight, BSc, MSc, PhD
J. R. Hitchcock, PhD, MCIP
K. Jones, PhD
S. H. Labatt, BA, MA, PhD
J. Layton, BA, MA, PhD
A. Lea, PhD
J. R. Malcolm, BSc, MSc, PhD
C. Marchand, BA, MA, PhD
D. McGregor, BSc, MES, PhD
B. W. Murck, BA, PhD
A. Perera, BSc, PhD
B. D. Poland, BA, MA, PhD
S. Prudham, BArtSc, MA, PhD
K. N. Rankin, BA, MRP, PhD
A. Shachar, BA, MA, PhD
N. E. Slack, PhD
A. Sorensen, BA, MSc, PhD
K. J. Wilson, BA, MA, PhD

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The Department of Geography offers facilities for research in 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, Brazil and the Caribbean, Northwestern and Central Europe, East Asia, South Asia, and the former Soviet Union.

Candidates are accepted under the provisions of the general regulations for study at the M.A., M.Sc., and Ph.D. levels. Candidates whose primary language is not English and who have graduated from a university where the language of instruction and examination was not English must have a TOEFL score of at least 580 and a TWE score of 5 or higher. For the computer-based TOEFL test, the minimum required total score is 237 with an Essay Rating score of 5.

**Degree of Master of Arts/Master of Science**

***Admission and Program Requirements***
Normally the Department requires a minimum B+ standing in the final two years of an appropriate four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, for admission to the M.A. and M.Sc. programs. Candidates are expected to have completed at least eight half-courses in geography or a related field. Candidates 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. Candidates 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.

Two geography programs and various collaborative programs are available; selection is made with the approval of the Department. Within most of these programs, students can be awarded a Master of Science degree if their research contains a substantial physical science component and if two-thirds of their course work comprise Geography courses accepted by the Department as physical science courses. Programs are usually completed in a 12-month period, excepting the Collaborative Environmental Studies research paper program and Collaborative International Relations program.

Progress into the second term is dependent on achieving an overall B average in the first term and satisfactory progress as outlined in the *Graduate Geography Handbook*.

***Program I—Thesis***
Candidates will undertake research leading to the preparation of a thesis, in conjunction with at least the equivalent of 1.5 full graduate courses including any required core courses.

***Program II—Research Paper***
Candidates will take the equivalent of three full graduate courses and pursue a research project, normally during the summer, leading to the preparation of a research paper (GGR 1100Y).

**Collaborative Programs**

***Environmental Studies Research Paper (Collaborative M.A./M.Sc. Program)***
Candidates will take the equivalent of seven graduate half-courses. Three of these courses must be taken in the Department of Geography (including GGR 1400H), one in a related discipline, and three at the Institute for Environmental Studies (two must be Institute core courses). This program is completed in 17 months.

Candidates 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 M.A./M.Sc. Program)***
Candidates will take the equivalent of four graduate half-courses. Two of these courses must be taken in the Department of Geography and two at the Institute for Environmental Studies. Candidates are also required to prepare and defend a thesis.

***Other***
The Department of Geography also participates in the following collaborative programs. Please consult the separate entries in this calendar for details.
Asia-Pacific Studies
Environment and Health (*see* Environmental Studies entry)
Ethnic and Pluralism Studies
International Relations
Toxicology
Women's Studies

**Surveying Science**
See courses listed below under Geographical Information Analysis.

**Degree of Master of Science in Planning**
Students interested in the M.Sc.Pl. program should consult the Planning entry in this calendar.

**Degree of Master of Spatial Analysis**
The Master of Spatial Analysis (M.S.A.) degree program is offered jointly by the Department of Geography at the University of Toronto and the

School of Applied Geography and the Centre for the Study of Commercial Activity at Ryerson Polytechnic University. The minimum requirement for admission is a B average in a four-year undergraduate degree or its equivalent. In addition, applicants must have achieved a minimum B+ average in their last four semesters of undergraduate study. Also applicants should have at least either a one-semester credit in GIS or a one-semester credit in applied statistics or quantitative methods, in their undergraduate program

The study program emphasizes knowledge of GIS, spatial statistics, and inferential modelling. The program requires that the student complete seven half-courses (five core and two electives), a practicum (for full-time students only), and a research paper. The five core courses are common to all students; the elective courses are chosen from the two streams: physical/landscape and business/commercial. The research paper must be presented and defended in an oral examination before a committee of faculty members. This is a 12-month full-time program or 24-month part-time program.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Normally the Department requires a minimum A- standing at the master's level for admission to the Ph.D. program. In exceptional cases and at the discretion of the Department, admission to the Ph.D. 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. Such students must complete three half-courses in addition to the doctoral course work requirements. Candidates 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.

The Ph.D. 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. 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. Residence provides the student with an opportunity to become immersed in the intellectual environment of the university.

Progress into the second year is dependent on passing all courses.

Before proceeding to full-time research, candidates shall:

**1** complete at least the equivalent of two full courses offered by the Department and one full course outside the Department;

**2** pass a comprehensive examination in the general field in which research is being undertaken by the end of the second term of the first year in residence;

**3** upon the recommendation of their committee, be required to acquire a knowledge of a foreign language necessary for their research;

**4** submit a research proposal that is acceptable to their research committee within six months of the comprehensive examination.

Ph.D. degree program requirements are fully described in the *Graduate Geography Handbook* which all students receive on registration.

### Credit for M.A./M.Sc. Courses

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 two full courses with the Department after entering the Ph.D. program.

### Courses of Instruction

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 Ph.D. students only.

GGR 1011Y Special course for Ph.D. candidates in other departments offering Geography as a minor/*Staff*

GGR 1100Y° Research Paper (CR/NCR)/*Staff*

GGR 1101H History of Geographic Thought/ *J. H. Galloway*

GGR 1102H Contemporary Issues in Geographic Thought/*Staff*

GGR 1149H Readings in Selected Topics/*Staff*

GGR 2149H Readings in Selected Topics/*Staff*

GGR 2150H, Y Advanced Seminar in Selected Topics/*Staff*

### *Physical Geography*

GGR 1201H Hillslope Geomorphology/*R. B. Bryan*

°Courses which may continue over a program. The course is graded when completed.

GGR 1202H Sedimentation and Fluvial Geomorphology/*R. J. Desloges*
GGR 1203H Coastal Hydrodynamics, Sediment Mechanics and Morphodynamics/*B. Greenwood*
GGR 1204H Soil Erosion Research/ *R. B. Bryan*
GGR 1205H Theoretical Geomorphology/ *B. Greenwood*
GGR 1206H Sedimentary Models/ *B. Greenwood*
GGR 1208H Experimental Methods in Erosion Research/*R. Bryan*
GGR 1212H Fate of Contaminants in Land and Water/*M. Diamond*
GGR 1302H Advanced Hydrology and Water Quality*B. A. Branfireun*
GGR 1304H Landscape Biogeography/*V. B. Robinson*
GGR 1305H Biogeography/*A. M. Davis*
GGR 1306H Measurement and Modelling of Surface Environments/*D. S. Munro*
GGR 1307H Cultural Biogeography/*A. M. Davis*
GGR 1308H Process Hydrology/*A. G. Price*
GGR 1310H Climate Modelling/*L. D. D. Harvey*
GGR 1311H Atmosphere-Ocean Modelling/ *W. A. Gough, L. D. D. Harvey*
GGR 1314H Topics in Physical Oceanography/ *W. A. Gough*

***Environmental and Resource Geography***
Incoming students in Environmental and Resource Geography must take GGR 1400H.

GGR 1400H Current Research Approaches in Environmental Geography/*Staff*
GGR 1402H Environment and Development/ *A. Boland*
JPG 1404H Issues in Global Warming/*L. D. D. Harvey*
GGR 1412H Strategies for Sustainable Development/*Staff*
JPG 1413H Workshop in Environmental Impact Assessment/*V. W. Maclaren*
JPG 1414H Cities as Ecosystems/*R. White*
JPG 1415H Environmental Justice/*R. Jaakson*
JFG 1417H Dryland Environmental Management/*R. B.* Bryan
JPG 1418H Rural Land Use Planning/ *M. Bunce*
JGE 1420H Urban Waste Management: an International Perspective/ *V. W. Maclaren*
JGE 1430H Political Economy of Forest Conservation/*W. S. Prudham*
GGR 1421H Medical Geography/*Staff*
JPG 1508H Planning for the Urban Poor in Developing Countries/*A. G. Daniere*

***Urban, Economic, and Social Geography***
Incoming students must take GGR 1500H.

GGR 1500H Core Course in Urban, Economic, and Social Geography/*Staff*
JPG 1501H Urban Spatial Structure and Growth/*J. Hackworth*
JPG 1506H State/Space/Difference: Understanding the New Social Geography of the State/ *S. Ruddick*
JPG 1507H Housing and Housing Policy/*L. S. Bourne*
JPG 1509H Gender Planning and International Development/*K. N. Rankin*
GGR 1602H Industry: Location, Behaviour, Policy/*J. N. H. Britton*
JPG 1614H Regional Development and Policy/*M. S. Gertler*
JPG 1615H Planning and Financing the Social Economy/*K. N. Rankin*
GGR 1651H Population Analysis: Research Seminar/*Staff*
JPG 1670H Regional Economic Analysis/*R. J. DiFrancesco*
GGR 1680H Geography of Tourism/*R. Jaakson*
GGR 1801H Social Identities and Space/*Staff*
JPG 1804H Space, Power and Geography: Understanding Spatiality/ *S. Ruddick*
JPG 1810H Globalization and Postmodernism/*K. Goonewardena*

***Cultural and Historical Geography***
Incoming students in Cultural and Historical Geography are urged to take GGR 1700H.

GGR 1700H Seminar in Cultural-Historical Geography/*J. H. Galloway*
GGR 1701H Historical Geography of North America/*T. F. McIlwraith*
JPG 1702H Historical Urban Geography and Planning/*R. D. Lewis*
GGR 1704Y Latin America/*J. H. Galloway*
JPG 1710H Historic Preservation Planning/ *D. A. McQuillan*
GGR 1712H Historical Geography of Ethnic Groups in Canada/*D. A. McQuillan*
JPG 1713H Place, Design, and Landscape/ *E. C. Relph*

(CR/NCR) Credit/No Credit

GGR 1714H Cultural and Critical Geographies/ *E. Gilbert*

***Geographical Information Analysis***

GGR 1901H Introductory Analytical Methods/ *R. J. DiFrancesco, Staff*
GGR 1903H Multivariate Statistical Methods in Geography/*Staff*
GGR 1904H Accuracy of Spatial Databases/ *F. Csillag*
GGR 1907H Geographic Information Processing/*D. Boyes*
JPG 1909H Social Survey Methods/*Staff*
GGR 1911H Remote Sensing/*J. Chen*
GGR 1913H Computer Cartography/*Staff*
JPG 1914H Spatial Information Systems/ *J. Chen*
GGR 1921H Land/Geographic Information Systems/*V. Robinson*
GGR 1922H Intelligent Land Database Systems/*V. Robinson*

***Master of Spatial Analysis***

MSA 9010H Accuracy of Spatial Databases/ *F. Csillag*
MSA 9020H Geographic Spatial Database Management and Spatial Technologies/*Staff*
MSA 9030H Analytical Methods and Spatial Data/*Staff*
MSA 9040H GIS Project Management Applications/*D. Boyes, Staff*
MSA 9050H Computer Cartography/ *C. Amrhein, Staff*
MSA 9110H Geodemographics/*Staff*
MSA 9120H Spatial Technologies in Strategic Planning/*Staff*
MSA 9210H Measurements and Modelling of Surface Environments/*S. Munro*
MSA 9220H Remote Sensing/*J. Chen*
MSA 1100Y Research Paper (CR/NCR)
MSA 4444H Practicum (for full-time students only)
MAS 9230H Land/Geographic Information Systems/*V. Robinson*

# Geology GLG

## Graduate Faculty

### Full Members

R. C. Bailey, BSc, PhD
J. Brenan, BSc, PhD
A. R. Cruden, BSc, PhD
D. W. Davis, BSc, MSc, PhD
M. S. V. Douglas, BSc, MSc, PhD
N. Eyles, BSc, MSc, PhD
F. G. Ferris, BSc, PhD
M. P. Gorton, BSc, PhD
B. Greenwood, BSc, PhD
H. C. Halls, BSc, MSc, PhD
G. S. Henderson, BSc, MSc, PhD
K. W. F. Howard, BSc, MSc, PhD
A. D. Miall, BSc, PhD, DSc, FRSC
J. E. Mungall, BSc, MSc, PhD
G. Norris, BA, MA, PhD, FRSC
R. N. Pysklywec, BSc, PhD
P.-Y. F. Robin, BSc, MSc, PhD
D. J. Schulze, BA, MSc, PhD
S. D. Scott, BSc, MSc, PhD, FRSC, Dr. Norman B. Keevil Chair in Ore Genesis ***(Chair)***
B. Sherwood Lollar, BA, PhD
E. T. C. Spooner, BA, PhD
P. H. von Bitter, BA, MA, PhD
J. A. Westgate, BSc, PhD
F. J. Wicks, BSc, PhD

### Members Emeriti

G. M. Anderson, BEng, MASc, PhD
J. Gittins, BSc, MSc, PhD, ScD
T. E. Krogh, MSc, PhD
A. J. Naldrett, BA, MSc, PhD, FRSC , University Professor Emeritus, Emeritus Dr. Norman B. Keevil Chair in Ore Genesis
J. C. Rucklidge, BA, PhD
W. M. Schwerdtner, DrRerNat, DipGeol, BSc, PhD

### Associate Members

Y. Amelin, MSc, PhD
J. Smol, BSc, MSc, PhD

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The Department of Geology accepts candidates for advanced degrees in a broad range of topics in the Earth Sciences. Candidates may also undertake studies in interdisciplinary areas by arrangement with other departments such as Physics, Chemistry, Materials Science and Engineering, Civil Engineering, Zoology, Botany, and the Institute for Environmental Studies.

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, and advanced studies are encouraged in a broad spectrum of geological problems. Further details of research emphases, facilities, detailed degree requirements, and graduate courses are contained in a brochure entitled *Graduate Studies in Geology* that may be obtained from the Department.

Candidates are accepted under the general regulations. The Department has no formal foreign language requirements. Candidates proceeding by thesis to any degree are expected to become familiar with the literature of their subjects, in whatever language it is written.

### Degree of Master of Science

Candidates are required to complete five full courses that (a) include a supervised research component equivalent to two or three courses or (b) consist of lecture course work only. Doctoral stream candidates should normally choose option (a). To encourage breadth of study, the department will permit students to substitute up to 50% of the program requirement of five full graduate courses with equivalent non-geology courses. Candidates may proceed on a part-time basis.

### Degree of Master of Applied Science

Candidates are normally required to complete two specialized graduate courses and the graduate seminar course in addition to the main requirement for the degree which is the preparation of a research thesis. Minimum full-time residence is one academic session.

### *Environmental Studies (Collaborative Program)*

Geology and a number of other graduate units, in conjunction with the Institute for Environmental Studies (IES), offer a collaborative master's program in environmental studies. Normally, the program consists of three IES half-courses and eight geology half-courses. For a full description of this program, see the Environmental Studies (Collaborative Program) entry in this calendar.

**Degree of Doctor of Philosophy**
The principal work for the Ph.D. degree is the preparation of a research thesis constituting a significant contribution to the knowledge of the earth. The study includes minima of one full graduate course equivalent in the major subject and one graduate half-course in the minor field.

Students are normally expected to complete the M.Sc. degree before proceeding to the Ph.D. but exceptions may be made when the student has the appropriate research experience. Normal departmental rules for the completion of the Ph.D. apply (see departmental brochure).

**Courses of Instruction**
Check with the Department for current year's offerings.

GLG 1100Y Seminars in Geology
GLG 1101H Seminars in Geology
GLG 1220H Fractures and Faults in the Earth/ *P.-Y. F. Robin*
GLG 1222H Rheology and Tectonics/*A. R. Cruden*
GLG 1442H Introductory Mineral Deposits I/ *E. T. C. Spooner, S. D. Scott, Staff*
GLG 1443H Introductory Mineral Deposits II/ *S. D. Scott, E. T. C. Spooner, Staff*
GLG 2302H Mineral Deposits Geology/*S. D. Scott, E. T. C. Spooner*
GLG 2306H Geochemistry of Hydrothermal Ore Deposits and Fluids/*S. D. Scott, E. T. C. Spooner*
GLG 2602H Regional Precambrian Geophysics/*H. C. Halls*
GLG 2603H Geochronology/*Y. Amelin*
GLG 2605H Sedimentary Basin Analysis I/ *A. D. Miall*
GLG 2606H Sedimentary Basin Analysis II/ *A. D. Miall*
GLG 2608H Advanced Glacial Sedimentology/ *N. Eyles*
GLG 2609H Tephrochronology and Fission-track Dating/*J. A. Westgate*
GLG 2612H Geology and Geochemistry of Magmatic Sulfide Ores
GLG 2613H Advanced Igneous Petrology
GLG 2701H Advanced Microbial Geochemistry/*F. G. Ferris*
GLG 2703H Environmental Isotope Geochemistry/*B. Sherwood Lollar*
GLG 2705H Techniques in Paleoenvironmental Research
GLG 3601Y Seminars in Geology
GLG 3602H Seminars in Geology
GLG 3603Y Selected Topics in Geology
GLG 3604H Selected Topics in Geology
GLG 3606H Seminars in Mantle Petrology/ *D. J. Schulze*
GLG 3608H Seminars in Instrumental Methods of Rock and Mineral Analysis/*M. P. Gorton, J.C. Rucklidge*
GLG 3615H Advanced Mineralogy/Mineral Chemistry/*G. S. Henderson, J. C. Rucklidge, F. J. Wicks*
JGN 2607H Advanced Techniques in Hydrogeology/*K. W. F. Howard*

Additional related courses can be found in the Geophysics section of the Graduate Department of Physics course listings.

# Germanic Languages and Literatures GER

## Graduate Faculty

### Full Members

W. Goetschel, PhD
***(Coordinator of Graduate Studies)***
J. Noyes, PhD
***(Chair)***
J. Retallack, BA, DPhil
C. Saas, BA, MA, PhD
H. W. Seliger, PhD
P. Soldovieri, PhD
D. W. J. Vincent, BA, MA, PhD
J. Zilcosky, PhD

### Members Emeriti

A. P. Dierick, BA, MA, PhD
C. N. Genno, PhD
W. Hempel, DPhil
A. Latta, PhD
R. W. Leckie, BA, PhD
H. Mayer, DPhil
H. Wetzel, DPhil

### Associate Members

J. Peck, PhD

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Candidates are accepted under the general regulations provided that they also satisfy the Department's requirements stated below.

An applicant from another university 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 to all programs for higher degrees will be based upon the candidate's academic record and upon the evidence of the supporting letters.

The selection of courses for the degrees of Master of Arts and Doctor of Philosophy should be made in consultation with the Coordinator of Graduate Studies of the Department of Germanic Languages and Literatures and must in every case be approved by the Department. All students in their first year of graduate study at the University of Toronto are required to take COL 1000H *Faculty Seminar: Theories of Literature and Criticism*.

### Degree of Master of Arts

Candidates for a one-year M.A. program must have completed the four-year B.A. 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.

Candidates are required:

**1** to complete the equivalent of 3.5 full courses, including COL 1000H *Faculty Seminar: Theories of Literature and Criticism*;
**2** to pass a German language competence test.

Details of these requirements are found in the departmental handbook.

### Degree of Doctor of Philosophy

Candidates must have completed the M.A. of this University with an average of at least A- or give evidence of having equivalent qualifications from a recognized university.

Candidates are required:

**1** to complete the equivalent of four full courses past the M.A. including COL 1000H *Faculty Seminar: Theories of Literature and Criticism* if not taken earlier;
**2** to give evidence of reading knowledge of French or, in exceptional circumstances, of another language approved by the Department;
**3** to pass a general examination in German literature within 16 months after entering the Ph.D. program;
**4** to pass a thesis field examination within 24 months after entering the Ph.D. program;
**5** to make an oral presentation of their thesis research to a public forum of the Department;
**6** to submit a thesis on an approved subject and to pass an oral examination on this subject.

The selection of courses may include the equivalent of 1.5 full courses in a department other than Germanic Languages and Literatures.

Permission may be given for the doctoral thesis to be written in German, subject to the recommendation of the candidate's thesis supervisory committee and to departmental approval.

Details of these requirements are found in the departmental handbook.

**Courses of Instruction**
Not all courses are offered every year. The Department should be consulted each session as to actual course offerings.

GER 1450H Eighteenth-Century German Drama/*D. Vincent*
GER 1498H Text as Palimpsest: Goethe's Writing and Re-Writing to 1790
GER 1505H Volks-und Kunstmärchen of German Romanticism/*C. Saas*
GER 1510H E.T.A. Hoffmann and the Dialectic of Enlightenment/ *J. Noyes*
GER 1530H Heine and Critical Theory/ *W. Goetschel*
GER 1580H Vienna at the Turn of the Century/*C. Saas*
GER 1660H Modernism and the Other/ *J. Zilcosky*
GER 1690H Theatre in the Weimar Republic/ *H. Seliger*
GER 1720H Kafka with Deleuze: Toward a "Minor Literature"/*J. Zilcosky*
GER 1730H Travel Writing/*J. Zilcosky*
GER 1740H Kant and Marx/*W. Goetschel*
GER 1750H Modernity and Its Discontents/ *W. Goetschel*
GER 1820H The Learning and Teaching of German/*M. Getty*
GER 1830H Topics in German Intellectual History/*Staff*
GER 1860H Introduction to Critical Theory/ *Staff*
GER 2000H,Y Reading Course in Approved Field/*Staff*
GER 3000H Current Trends in German Literature/*Staff*
HIS 1275H Imperial Germany/*J. Retallack*
MST 2010Y Old Norse/*D. M. McDougall, I. C. McDougall*
MST 2015Y Studies in Old Norse Texts/ *D. M. McDougall, I. C. McDougall*
MST 2018H Old Norse Legendary Sagas/ *A. Orchard*

# Health Policy, Management and Evaluation HAD

## Graduate Faculty

### Full Members

G. M. Anderson, BSc, MD, MSc, PhD
G. R. Baker, BA, MA, PhD
J. M. Barnsley, BSc, MSc, PhD
M. Bliss, BA, MA, PhD, FRSC
C. Bombardier, MA, MD, FRCP(C)
S. B. Bull, BMath, MMath, PhD
R. W. Cockerill, BA, MA, PhD
M. M. Cohen, BSc, MHSc, MSc, MD, FRCP(C)
R. J. Cook, AB, MA, MPA, JD, LLM, JSD
P. C. Coyte, BA, MA, PhD
D. A. Davis, BA, MD, FCFP, CCFP
R. B. Deber, SB, SM, PhD
A. S. Detsky, BS, MD, PhD
B. M. Dickens, LLB, LLM, PhD, LLD, Dr. William M. Scholl Chair in Health Law and Policy
T. R. Einarson, BScPhm, MEd, MPharm, MSc, PhD
B. Feldman, MSc, FRCPC(R), FRCPC(P), LMCC, MD
R. Glazier, MPH, MD
V. Goel, MD, CM, MSc, SM, FRCP(C)
P. N. Goering, BSN, MSN, RN, PhD
M. E. Hannah, BSc, MS, MDCM
G. Hawker, BSc, MD, MSc, FRCP(C)
S. Hogg-Johnson, BSc, BMath, MMath, PhD
C. H. Hollenberg, MD
D. L. Holness, MHSc, MD
A. R. Hudson, MB, BCHIR
A. Jadad, MD, PhD, FRCP(C)
M. D. Krahn, BA, MSc, MD, FRCP(C)
N. Kreiger, BA, MPH, MPhil, PhD
A. Laupacis, MSc, MD, FRCPC
L. Lemieux-Charles, BScN, MScN, PhD
K. J. Leonard, BComm, MBA, PhD
A. G. Logan, MD, FRCP(C)
C. Macarthur, MBChB, PhD
J. R. McLaughlin, BSc, MSc, PhD
H. MacLean, BSc, MSc, DipNutr, EdD
R. S. McLeod, BM, MD, FRCS(C)
T. Myers, BA, MSc, MSW, PhD
G. I. Naglie, BSc, MDCM, FRCP(C), ABM
C. D. Naylor, MD, DPhil, FRCP(C)
L.-L. O'Brien-Pallas, BScN, MScN, PhD, National Research Chair in Nursing Human Resources
A. Ohlsson, MSc, MD, FRCP(C)
G. H. Pink, BCom, MHSA, PhD
D. A. Redelmeier, MS, MD, FRCP(C), De Souza Chair in Trauma Research
P. A. Rochon, MD, MPH, FRCP(C)
A. M. Sass-Kortsak, BSc, MHSc, PhD
T. A. Stukel, PhD, MAF, BSc (Hon), Math (Magna cum laudae)
Y. R. Talbot, MD
I. F. Tannock, BA, MD, PhD, FRCP, The Daniel E. Bersagel Chair in Medical Oncology
T. To, BSc, MS, PhD
J. V. Tu, MD, PhD, Canada Research Chair
E. Wang, MD, MSc, FRCP(C)
D. A. Wasylenki, BA, MSc, MD, FRCP(C)
A. P. M. Williams, PhD
J. G. Wright, MD, MPH, RB Salter Chair of Paediatric Surgical Research

### Members Emeriti

J. E. F. Hastings, MD, DPH, FRCP(C)
E. Vayda, MD, FRCP(C), FACP

### Associate Members

U. D. Allen, MBBS, MSc, FAAP, FRCP(C)
M. Bacchus, MD
A. Bayoumi, MSc, MD, FRCPS
D. Beaton, BScOT, MSc, PhD
V. Benk, MSc, MD
W. Berta, PhD
A. Bezjak, BMedSc, MDCM, MSc, FRCP(C)
J. Bohnen, MD, FRCSC, FACS
H. Boon, BScPhM, PhD
A. Brown, AB, PhD
J. W. Browne, BA, MA
A. M.-W. Cheung, BA, MD, PhD, FRCP(C)
S. Choudhry, BSc, BA, LLB, LLM
R. Corbin, BSc, MSc, MA, PhD
A. M. Davis, BSc(PT), MSc, PhD
C. Dewa, PhD
P. Dick, MD, FRCPC
S. Donnelly, BSc, MSc, MDCM, FRCP(C)
E. Etchells, MSc, MD, FRCP(C)
G. Eysenbach, MD, MPH, IP
D. Feig, BSc, MSc, FRCP(C), MD
C. Flood, BA, LLB, LLM, SJD
P. Fortin, MD, MPH, FRCP(C)
P. Gamble, PhD
W. Geerts, BSc, BMedSci, MD, FRCP(C), FCCP
S. S. Glouberman, BA, PhD
P. J. Goodwin, MSc, MD, FRCP(C), The Marvelle Koffler Chair in Breast Research
D. Guerriere, PhD
D. Hodgson, MD, MPH, FRCP(C)
A. Howard, MD, MSc, FRCS(C)
J. Hux, BSc, MSc, MD, FRCP
S. Hwang, MD, MPH, FRCP(C)
C. Jackevicius, BSc, MSc
S. B. Jaglal, BSc, MSc, PhD
S. V. Jassal, MD, MB, BCh, BAO(Dist), MRCP(UK), MSc
M. Kapral, MSc, MD, FRCP(C)
H. J. Kreder, MD, FRCS(C), MPH
A. Laporte, PhD
E. Lin, BA, MSc, PhD
A. Maetzel, MD, MSc, PhD
N. Mahomed, MD, ScD

D. K. Martin, BSc, PhD
B. W. McCrindle, MD, MPH, FRCP(C), FACC
A. McGeer, BSc, MSc, MD, FRCP(C)
L. Mitchell, MSc
L. Morrison, MD, FRCPC
M. A. Murray, BA, MA, PhD
D. Naimark, MD, BSc, MSc, FRCP(C)
E. Nauenberg, PhD, MMP/MH
L. J. Nestman, BComm, CA, MHsA
P. O'Connor, MSc, MD
V. Palda, MD, MSc, FRCP(C)
L. Paszat, BA, MD, MS, FRCP(C)
C. Preyra, MSc, PhD
K. I. Prichard, MD, FRCP(C)
G. Pron, BSc, MSc, PhD
M. Rachlis, MD, MSc
D. Rath, BScN, MSc
J. Ringash, BSc, MSc, MD, FRCP(C)
P. Rosenbaum, MD, FRCP(C)
S. Ross, MBA, PhD, MPhil
C. Sawka, BMSc, MD
S. Sharkey
M. V. Sinnott
T. Smith, BSc, MSc
A. H. Steinhart, BA, MD, FRCP(C), MSc
T. Sullivan, BSc, MA, PhD
J. P. Szalai, BA, MA, PhD
G. Teare, DVM, MSc, PhD
G. Tolomiczenko, MPH, PhD, CPsych
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S. Vohra, MSc, MD
S. L. Walmsley, MD, FRCP(C)
H. E. A. Whyte, MSc, MD, FRCP, FRCP(C)
D. J. Willison, BSc,, MSc, ScDesign, ScD
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**Application**
A complete description of all programs, degree requirements, courses, faculty research interests, and policies is available on the Web site www.utoronto.ca/hpme. Application forms and other required forms are also available on this site.

Students are admitted under the general regulations of the School of Graduate Studies. Please note the application deadlines.

*November 15*
M.Sc. in Clinical Epidemiology and Health Care Research

*February 1*
M.H.Sc. in Health Administration
M.H.Sc. in Health Administration/M.S.W. joint degree program
M.Sc. in Health Administration
Ph.D.

**Degree of Master of Health Science**
The M.H.Sc. degree program is for health managers and professionals who wish to acquire a professional graduate education in health administration. The program is offered in a modular format that concentrates class time into Wednesday evening and all day Thursday, Friday, and Saturday, five times per session. The program consists of five consecutive sessions starting in September of each year.

***Admission Requirements***
**1** Applicants normally require 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.
**2** Candidates are strongly advised to have some prior preparation in quantitative courses such as statistics, accounting, and economics.
**3** Relevant work and/or field experience is preferred.

***Program Requirements***
**1** Completion of 10 full-course equivalents of which 8.5 are required subjects and which includes a minimum of 1 full-course equivalent in a field placement.
**2** Degree requirements are normally completed within two years.

***Courses of Instruction***
All courses are offered in modular format unless marked otherwise.

*Required*
HAD 5010H Canada's Health System and Health Policy: Part I/*A. P. M. Williams, R. Deber*

HAD 5020H Canada's Health System and Health Policy: Part II/*R. Deber, A. P. M. Williams*
HAD 5030H Methods and Cases in Health Policy/*A. Brown*
HAD 5711H Theory and Practice of Strategic Planning and Management in Health Service Organizations/ *W. Berta*
HAD 5713H Introduction to Health Information Systems/*J. M. Barnsley*
HAD 5721H Strategic Management of Quality and Organizational Behaviour in Health Services Organizations/ *G. R. Baker*
HAD 5723H Health Services Accounting/*Staff*
HAD 5724H Quantitative Methods for Health Services Management and Policy/*R. W. Cockerill*
HAD 5725H Health Economics/*C. Dewa*
HAD 5731H Advanced Cases in Health Administration, Management, and Strategy/*G. R. Baker*
HAD 5733H Health Services Finance/*Staff*
HAD 5741H Health Law/*S.Grauer, M. Thomson*
HAD 5761H Decision Support Systems in Health Care/*K. J. Leonard*
HAD 5769H Human Resources Management in the Health Field/*L. Lemieux-Charles*
HAD 5770H Program Planning and Evaluation/*R. C. Cockerill*
HAD 6010Y Required M.H.Sc. Practicum (CR/NCR)/*T. Smith*
HAD 6011H Optional Practicum Extension (CR/NCR)/*T. Smith*

*Elective* (non-modular electives may be taken subject to program approval)

HAD 5732H Customer Knowledge in Health Care: Getting and Using Customer Feedback in Health Care/ *M. A. Murray*
HAD 5764H Advanced Decision Support Systems/*K. J. Leonard*
HAD 5765H Case Studies in Health Policy/ *R. B. Deber*
HAD 5767H Health Services Marketing/ *R. Corbin*
HAD 5768H International Perspectives on Health Services Management/ *D. Zakus*
HAD 7001H Issues in Private Sector Management/*A. Brown*

(CR/NCR) Credit/No Credit

**Degree of Master of Science**
The Department of Health Policy, Management and Evaluation offers two programs leading to the Master of Science:
**1** Clinical Epidemiology and Health Care Research
**2** Health Administration

***Clinical Epidemiology and Health Care Research***
The M.Sc. degree program in Clinical Epidemiology and Health Care Research is undertaken by health professionals interested in research and academic careers in health care.

*Admission Requirements*
Applicants normally require a B+ average or higher in the last two years of a four-year undergraduate degree in a health profession (e.g., M.D., B.Sc.N., B.Sc.O.T., B.Sc.P.T., D.D.M., M.Sc.N.) from a recognized university.

*Program Requirements*
**1** Completion of all degree requirements within five years.
**2** The writing of a thesis under the supervision of a thesis committee (supervisor and at least one additional faculty member) and its defence before an examination committee appointed by the Graduate Department of Health Policy, Management and Evaluation.
**3** The completion of six half-courses; three required (CHL 5201H, HAD 5301H or equivalent, and one of HAD 5303H, HAD 5304H, HAD 5306H or HAD 5309H) and three optional.

*Courses of Instruction*
CHL 5201H Introduction to Biostatistics for Students in the Biological Sciences I/*J. Beyene, P. Corey*
HAD 5301H Introduction to Clinical Epidemiology and Health Care Research/ *B. Feldman, B. Urbach*
HAD 5302H Measurement in Clinical Research/*A. Davis, D. Beaton, N. Young*
HAD 5303H Controlled Clinical Trials/ *H. Steinhart, S. Ross*
HAD 5304H Clinical Decision Making and Cost Effectiveness/*A. S. Detsky, M. Krahn, G. Naglie*
HAD 5305H Evidence-Based Guidelines/ *D. Feig, N. Palda*
HAD 5306H Introduction to Health Care Research Methodology/*P. Dick, J. Hux*
HAD 5308H Systematic Review of Randomized Controlled Trials/*A. Ohlsson*

HAD 5309H Non-Experimental Design for the Clinical Researcher/*G. Hawker*
HAD 5310H Pragmatic Issues in RCTs Course/*M. E. Hannah, S. Ross*
JNH 5000H Measurement of Patient's Preferences in Health Care Decision Making/*H. Llewellyn-Thomas*
HAD 6360H Required Research Practicum in Clinical Epidemiology (CR/NCR)
HAD 6361H Optional Research Practicum in Clinical Epidemiology (CR/NCR)
HAD 5763H Health Care Performance Measurement/*G. M. Anderson*

***Health Administration***
This M.Sc. degree program is undertaken by students interested in research and academic careers in health care research.

*Admission Requirements*
Applicants normally require 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.

*Program Requirements*
**1** Completion of all degree requirements within five years.
**2** The writing of a thesis under the supervision of a thesis committee (supervisor and at least one additional faculty member) and its defence before an examination committee appointed by the Graduate Department of Health Policy, Management and Evaluation.
**3** The completion of six half-courses; two of which must be research methodology courses and two of which must be in an area of specialization.

**Degree of Doctor of Philosophy**
The Ph.D. degree program is undertaken by students interested in research and academic careers in health care research. Specializations offered are health policy, health services organization and management, finance/accounting/health informatics, and clinical epidemiology

***Admission Requirements***
Candidates applying to the Ph.D. program are normally expected to have completed a M.A. or M.Sc. (with a thesis) and to provide satisfactory references pertaining to their academic and research abilities. Upon the recommendation of the appropriate Health Policy, Management and Evaluation committee, outstanding students with a non-thesis master's degree may be admitted to the Ph.D. program if they have 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 M.Sc. program and may petition to transfer into the Ph.D. program within 24 months of their first registration. Transfer is contingent upon successful completion of course work and preparation and defence of a Ph.D. thesis proposal.

***Program Requirements***

*Full Time*
**1** Full time registration (fall, spring, summer sessions) for the first four years of the doctoral program.
**2** Completion of all degree requirements within six years from first registration in the program. Thereafter, candidates may apply for a maximum of two one-year extensions.
**3** The completion of a comprehensive course in the area of specialization.
**4** The completion of 10 half-courses.
**5** The writing of a Ph.D. thesis under the supervision of an approved thesis committee (supervisor plus two additional faculty members).
**6** The oral defence of the thesis before an examination committee appointed by the School of Graduate Studies.

*Flexible Time*
With the approval of the graduate chair, some applicants may be admitted to a flexible-time Ph.D. program. This program will benefit mature students with career and/or familial obligations. The degree requirements for the flexible-time Ph.D. program are identical to those listed above for the full time Ph.D. program; however, students have up to eight years to complete the program. Students are required to register full time for the first four years of their program; thereafter, they may register part time.

***Courses of Instruction***
HAD 5011H Canada's Health Care System (Doctoral Stream)/*A. P. M. Williams*
HAD 5311H° Comprehensive/Synthesis—Clinical Epidemiology and Health Care Research (CR/NCR)/ *G. Hawker*
HAD 5730H Research Economics I/*P. C. Coyte, A. Laporte, W. Ungar*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

HAD 5760H Advanced Health Economics and Policy Analysis/*P. C. Coyte, A. Laporte*
HAD 5762H° Seminar Series (CR/NCR)
HAD 5763H Health Care Performance Measurement/*G. M. Anderson*
HAD 5771H Resource Allocation Ethics/*Staff*
HAD 5772H Intermediate Statistics for Health Services Researchers/*M. A. Murray*
HAD 6760Y Introduction to Health Services Research Theory and Methods/*Staff*
JNH 5001H Health Care Settings: Issues, Concepts, Measures, and Policies/*P. C. Coyte, P. McKeever*

**M.H.Sc. Health Administration/M.S.W. Joint Degree Program**

The M.H.Sc. Health Administration/M.S.W. Joint Degree Program allows students with a strong interest in both social work and health/social sciences management the opportunity to engage in an integrated program of study leading to the concurrent receipt of the M.H.Sc. and M.S.W. degrees.

There are two full-time streams of study: a three-year program for students admitted with a four-year undergraduate degree and a two-year program for students with a Bachelor in Social Work.

Candidates for the M.H.Sc.Health Administration/M.S.W. Joint Degree Program must apply to, and be admitted to both faculties; therefore, candidates must meet the requirements for admission to both. Note however, that the deadline for receipt of applications to the M.H.Sc. program is February 1 and the deadline for the M.S.W. Program is December 1. Further details can be obtained from our Web site at www.utoronto.ca/hpme/

**Cross-listed Courses**

These courses are limited to certain program students in Health Policy, Management and Evaluation. Please check the Web site www.utoronto.ca/hpme/

LAW465H Conflicts of Interest in Medicine: Evidence, Public Policy, and the Law/*S. Choudhry*
LAW404H Health System Law and Policy/*C. Flood*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

# History HIS

## Graduate Faculty

### Full Members

J. Abray, BA, MA, MPh, PhD
R. D. Accinelli, BA, MA, PhD
S. Aster, BA, MA, PhD
K. R. Bartlett, BA, MA, PhD
C. C. Berger, BA, MA, PhD, FRSC
R. Birla, BA, MA, MPhil, PhD
P. Blanchard, BA, PhD
M. Bliss, BA, MA, PhD, FRSC
R. S. Bothwell, BA, AM, PhD, FRSC
T. J. Brook, BA, AM, PhD
E. Brown, BA, MPhil, MA, PhD
J. Brownlee, BA, MA, MPh
I. Cochelin, BSc, BA, MA, DEA, PhD
J. Dent, BA, MA, PhD
E. W. Dowler, BA, AM, PhD
M. Eksteins, BA, BPhil, DPhil
J. K. Farge, BA, MA, PhD
M. G. Finlayson, BA, MA, PhD
M. Gervers, AB, MA, PhD
J. Goering, BA, MAR, MA, MSL, PhD
A. Greer, BA, MA, PhD
B. S. Hall, BA, PhD
E. Halpern, BA, MA, PhD
S. Hawkins, BA, MA, PhD, FCCS
D. C. Higgs, BA, MA, PhD
A. D. Hood, BA, MA, PhD
F. Iacovetta, BA, MA, PhD
J. N. Ingham, BA, MA, PhD
M. Israel, BA, MA, PhD
E. Jennings, BA, MA, PhD
R. E. Johnson, BA, MA, PhD
M. Kasturi, BA, MPhil, MA, PhD
C. Keil, BA, MA, PhD
B. Kidd, BA, AM, MA, PhD
J. Kivimäe, BA, PhD
T. Lahusen, BA, MA, PhD
J. Langins, BEng, MA, MEng, PhD
C. LaVigna, BA, PhD
T. H. Levere, BA, MA, DPhil, DLitt, FRSC
L. Loeb, BA, MMSt, PhD
L. S. MacDowell, BA, MSc, PhD
M. MacMillan, BA, BPhil, DPhil
P. R. Magocsi, AB, MA, MA, PhD, FRSC
M. Marrese, BA, MA, PhD
M. R. Marrus, BA, MA, PhD, FRHistS, FRSC, Chancellor Rose and Ray Wolfe Professor of Holocaust Studies
P. M. H. Mazumdar, MSc, MD, PhD
M. McGowan, BA, MA, PhD
C. T. McIntire, BA, MA, MDiv, PhD
M. D. Meyerson, BA, MA, PhD
C. Morgan, BA, MA, PhD
J. Mori, BA, DPhil
D. Morton, BA, MA, PhD, FRSC, OC
M. Murphy, BA, PhD
A. C. Murray, BA, PhD
N. B. Musisi, PhD
M. Newton, BA, MA, DPhil
J. Noel, BA, MA, PhD
J. Pearl, BA, MA, PhD
D. Penslar, BA, MA, PhD
J. R. Phillips, MA, LLB, PhD
R. W. Pruessen, BA, MA, PhD *(Chair)*
I. Radforth, BA, MA, PhD
J. Retallack, BA, DPhil
I. R. Robertson, BA, MA, PhD
S. Rockel, BA, MA, PhD
A. Rossos, BA, MA, PhD
P. Rutherford, BA, MA, PhD
A. Schmid, BA, MA, PhD
A. Sheps, BA, MA, PhD
E. L. Shorter, BA, MA, PhD, FRSC
G. Silano, BA, BEd, LLB, MA, PhD
A. I. Silver, BA, MA, PhD
D. P. Smyth, BA, PhD, FRHistS
C. Strange, BA, MA, PhD
M. A. Szonyi, BA, MA, DPhil
N. Terpstra, BA, MA, PhD
B. J. Todd, BA, MA, PhD
H. M. Troper, BA, MA, PhD
S. Van Kirk, BA, MA, PhD
L. Viola, BA, MA, PhD
N. K. Wagle, BA, MA, PhD
W. K. Wark, BA, MA, PhD
M. Wayne, BA, PhD
D. Wilson, BA, MA, PhD
M. P. Winsor, AB, MPh, PhD
P. Wróbel, MA, PhD

### Members Emeriti

J. M. Beattie, BS, MA, PhD, FRSC, University Professor Emeritus
W. C. Berman, BA, MA, PhD
R. C. Brown, BA, MA, PhD FRSC
W. J. Callahan, AB, MA, PhD
R. Cook, BA, MA, PhD, OC, FRSC
N. Davis, BA, MA, PhD, FAmAcAs, CFBrAc
H. L. Dyck, BA, MA, PhD
J. M. Estes, PhD
W. A. Goffart, AB, AM, PhD, FMAA, FRHistS, FRSC
P. Grendler, BA, MA, PhD
R. J. Helmstadter, BA, MA, PhD
M. A. Klein, BS, MA, PhD
J. Kornberg, BA, PhD
T. O. Lloyd, BA, MA, PhD
W. H. Nelson, BA, MA, PhD
D. Raby, BA, PhD
J. A. Raftis, BA, MA, DrenScSoc, PhD, FRSC
A. Robson, BA, MA, PhD, FRHistS

**Associate Members**
A. Blake, BA, PhD
J. T. H. Connor, BSc, MA, MPhil, PhD
F. McKenzie, BA, MA, PhD
D. Williams, BA, MA, PhD

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**Admission**
In addition to the School of Graduate Studies application form, applicants must submit an information form, three letters of recommendation, and a statement of interest. A short writing sample or course paper is welcomed. Complete application packages may be downloaded from the History Department's Web site. The closing date for applications to the M.A. and Ph.D. programs is January 15. Later applications will be considered only in exceptional circumstances.

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). Applicants taking the paper-based TOEFL exam must achieve a minimum score of 600 and 5.0 on the TWE. Applicants taking the computer-based TOEFL exam must achieve a minimum score of 250 and 5 on the essay rating component.

**Degree Programs**
The Department offers both the M.A. and Ph.D. degrees in history.

Candidates from other universities will have their academic records equated as far as is practicable with the required standards set out below.

**Degree of Master of Arts**
For admission to the M.A., students must hold a four-year B.A. degree from this university or a similar program elsewhere, must have attained at least a B+ standing, and must have successfully completed at least six full courses in history. Candidates without adequate history training may be required to complete an appropriate number of undergraduate history courses before being considered for admission. In rare cases, a candidate may be admitted to the M.A. program but will be required to do one or two additional courses.

Students usually complete the M.A. by course work and the HIS 2000Y paper. Some students may elect to complete the M.A. by course work and thesis. All M.A. candidates are required to take HIS 1997H *The Practice of History*. Those electing the thesis option will take the equivalent of three additional half-courses and present an M.A. thesis. Those selecting the course option will take the equivalent of four additional half-courses and the M.A. essay. Up to one full-course equivalent may be taken outside the History Department with the approval of the Coordinator of Graduate Studies.

M.A. candidates must achieve at least an overall B average in their courses to maintain standing. They must also pass the required reading examination in a language other than English.

Full-time M.A. students in the course option are expected to complete all degree requirements within 12 months of entering the program. The thesis M.A. might take longer than the course M.A.; the thesis must be presented within five years of entering the program. It is possible to do the M.A. on a part-time basis within a maximum of five years.

**Degree of Doctor of Philosophy**
To be considered for admission to the Ph.D. program, candidates normally hold the M.A. degree in history, or its equivalent, and must satisfy the Department of their ability to do independent research at an advanced level. Applicants are expected to have achieved grades averaging A- or better in their most recent degree. Students entering the Ph.D. program with an M.A. will complete four half-courses.

Exceptional students may be admitted directly to the Ph.D. program from the B.A. Such applicants will apply to the M.A. program, but indicate on the M.A. admission that they wish to be considered for direct admission to the Ph.D. program. If accepted, students from the B.A. level will normally be expected to complete four additional half-courses for a total of eight in their program. One of these courses should be HIS 1997H *The Practice of History*. These students will be expected to maintain an A- average in their first four half-courses in order to continue in the program.

There are four main requirements in the Ph.D. program: fulfillment of the residence requirement, successful completion of comprehensive examinations in three fields of history, fulfillment of language requirements that vary

with the candidate's major area of study, and the writing and successful defence of a thesis. Although it is possible to complete these requirements within four years, in most cases it will take longer.

The History Department requires its Ph.D. candidates to be in residence until they have passed their field examinations but no longer than a period of two years. To fulfill this requirement a student must be in full-time residence and consequently 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.

Normally, course work will be completed within the first year of study. Courses should be chosen to assist in preparation for the field examinations. Candidates for the Ph.D. must maintain a minimum average of B+ throughout their course work.

At the beginning of their programs, candidates, in consultation with the Coordinator of Graduate Studies, will decide upon their fields and be assigned advisors. 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. Candidates are required to take their field examinations by the spring of their second year in the program, but they are strongly advised to take them as soon as possible after the completion of their course work. While examinations are normally held in October, January, and March, candidates may take them at other times with the permission of their field supervisors. Examinations cannot be postponed beyond the spring of the second year without permission of the Coordinator of Graduate Studies. The Department's graduate handbook, *Graduate Studies in History*, contains a list of the fields offered.

If not already so qualified, a candidate must qualify in one language other than English by the beginning of the second year and may be asked to qualify in other program-related languages.

When all of the above requirements are completed, the candidate will proceed to the writing of the Ph.D. thesis. The thesis must be a piece of original scholarship, approximately 350 pages or 90,000 words in length, exclusive of notes and bibliography. Thesis preparation is guided by a committee consisting of the major supervisor and two other faculty members. The thesis must be presented within six years of enrolment in the Ph.D. program.

**History of Medicine Option**

The University of Toronto has particular strength in the history of medicine, and students interested in this field can pursue their studies through supervised research and courses in this area organized in the History Department and elsewhere in the University. Major and minor Ph.D. fields in the history of medicine are available in the History Department.

**Collaborative Programs**

The Department of History participates in the following collaborative programs:
Asia-Pacific Studies
Ethnic and Pluralism Studies
International Relations
South Asian Studies
Women's Studies
Each of these programs has its own entry in this calendar; interested students should refer to these entries.

**Courses of Instruction**

Not all courses are offered every year. Please consult the Department's list of current course offerings as well as those offered by other departments that may be taken for history credit. Some courses appearing below are double listed.

***African History***

HIS 1706H Decolonizing Research Methodologies/*S. Hawkins, N. Musisi*
HIS 1707H Topics in African History/ *S. Rockel*

***American History***

HIS 1520H Readings in Visual Culture and American History/*E. Brown*
HIS 1521H Time and Place: Cultural Studies of Place in American History/ *A. Blake*
HIS 1525H Topics in the History of the American South/*M. Wayne*
HIS 1526H The Black Experience in America/ *M. Wayne*
HIS 1527H Readings in American History, 1877-1912/*J. Ingham*
HIS 1528H Crossing Boundaries: Race, Ethnicity, Class and Gender in America, 1880-1930/*J. Ingham*
HIS 1530H American Foreign Policy in the Twentieth Century/*R. D. Accinelli*
HIS 1532H American Foreign Policy in the Cold War/*R. Pruessen*
HIS 1534H Topics in Colonial American History/*A. Hood*

HIS 1536H Religion, Society and Politics in Eighteenth- and Nineteenth-Century America/*A. Sheps*
HIS 1537H Society, Culture and Politics in the Early United States, 1780-1850/*A. Sheps*
HIS 1543Y Topics in Material Culture/*A. Hood*
HIS 1545H Race, Segregation and Protest: South Africa and the United States/*R. Halpern*

***Asian History***

HIS 1670H Topics in Late Imperial and Modern Chinese History (joint graduate/undergraduate)/*M. Szonyi*
HIS 1674Y Japanese Political Thought, 1868-Present (joint graduate/undergraduate)/*J. Brownlee*
HIS 1675Y State, Society, and Economy in the Late Imperial China (joint graduate/undergraduate)/*T. Brook*
JHA 1685Y Medieval Indian Society: Concepts of Law, State, and Social Structures to A.D. 1880 (for students in the History Department, no language required) (joint graduate/undergraduate)/*N. K. Wagle*
JHA 1686H Studies in Ancient and Medieval Indian Historiography: Buddhist, Jain, Hindu, and Muslim (joint graduate/undergraduate)/*N. K. Wagle*
JHA 1690Y Nationalism in India—Before and After Independence (joint graduate/undergraduate)/*M. Israel*

***British History***

HIS 1411H Theory and Practice in Early Modern British History, 1500-1800/*J. Mori*
HIS 1414H Early Tudor England, 1485-1558/*K. Bartlett*
HIS 1435H Studies in Victorian Society/*L. Loeb*
HIS 1440H Irish Revolutionary Traditions/*D. Wilson*
HIS 1630H Appeasement/*S. Aster*

***Canadian History***

HIS 1102H Spiritual Invasion: Natives of the Americas Confront Christianity/*A. Greer*
HIS 1103H Cultural Encounters in Early Canada (joint graduate/undergraduate)/*A. Greer*
HIS 1106H Topics in Canadian Social History/*I. Radforth*
HIS 1107H Religion, Culture and Society in Canada (joint graduate/undergraduate)/*M. McGowan*
HIS 1108H Culture, Nationality, and the State in Canada (joint graduate/undergraduate)/*A. Silver*
HIS 1110H French-English Relations in Canada (joint graduate/undergraduate)/*A. Silver*
HIS 1111H Topics in North American Environmental History (joint graduate/undergraduate)/*L. MacDowell*
HIS 1120H Topics in Aboriginal/Non-Aboriginal Relations in Canada (joint graduate/undergraduate)/*S. Van Kirk*
HIS 1130H Atlantic Canada (joint graduate/undergraduate)/*I. R. Robertson*
HIS 1136H The Canadian Political Tradition: From Macdonald to Chrétien (joint graduate/undergraduate)/*M. Bliss*
HIS 1142Y Canadian Foreign Relations, 1940-1984 (joint graduate/undergraduate)/*R. Bothwell*
HIS 1153H Topics in Women's History (joint graduate/undergraduate)/*S. Van Kirk*
HIS 1154H Directed Research in Women's History (joint graduate/undergraduate)/*S. Van Kirk*
HIS 1155H Topics in the History of Victorian Canada/*C. C. Berger*
HIS 1164H Irish Migration to Canada: Sources and Methods/*M. McGowan*
HIS 1165Y Canadian Popular Culture, 1880-Present (joint graduate/undergraduate)/*P. Rutherford*
HIS 1166H Immigrants, Minorities, and the Racialized Other: Canada in Comparative Context/*F. Iacovetta*
HIS 1167H Selected Topics in Gender History/*F. Iacovetta*
HIS 1170H History of Health Care in Canada (joint graduate/undergraduate)/*M. Bliss*

***European History***

HIS 1221H Topics in Early Modern European Social History/*N. Terpstra*
HIS 1222H Ritual in Renaissance and Early Modern Europe/*N. Terpstra*
HIS 1223H Humanism and the Renaissance/*K. Bartlett*
HIS 1224H Topics in Modern Italian History/*C. LaVigna*

HIS 1227H Witchcraft and Demonology in Early Modern Europe/*J. Pearl*
HIS 1230H The Sexes in the Western World, 1450-1650/*J. Abray*
HIS 1232H European Colonialism, 1870-1970: A Comparative History/ *E. Jennings*
HIS 1240H Government and Society in Seventeenth-Century France/ *J. Dent*
HIS 1242H Religion and Society in Europe, 1760-1914/*C. T. McIntire*
HIS 1245H Women in Early Modern Europe/ *B. Todd*
HIS 1261H Studies on the European Right/ *M. R. Marrus*
HIS 1265Y Europe in the Eighteenth Century (joint graduate/undergraduate)/ *D. C. Higgs*
HIS 1267H Nationalism/*D. Penslar*
HIS 1268H Modernism and Modernity: Europe Culture, 1870-1950/ *M. Eksteins*
HIS 1274H The Nazis, Occupied Europe, and the Jews/*M. R. Marrus*
HIS 1275H Imperial Germany, 1871-1918 (joint graduate/undergraduate)/ *J. Retallack*
HIS 1277H Topics in Jewish History/ *D. Penslar*
HIS 1635H The Great Powers and the Spanish Civil War, 1936-1939/*D. P. Smyth*
JHL 5001H Between Literature and History: Cultural Description in Early Modern Travel Literature/ *N. Davis*

***Russian/Eastern Europe***

HIS 1280Y History of Soviet Cinema (joint graduate/undergraduate)/*T. Lahusen*
HIS 1281H Experiences of Real Socialism/*T. Lahusen*
HIS 1282H Totalitarian Culture/*T. Lahusen*
HIS 1283H War, Plague and Hunger in the Early Modern Baltic/*J. Kivimäe*
HIS 1284H The Baltic World/*J. Kivimäe*
HIS 1285Y The Ukrainian National Revival (joint graduate/undergraduate)/ *P. Magocsi*
HIS 1287H Polish Jews Since the Partitions of Poland (joint graduate/undergraduate)/*P. Wróbel*
HIS 1288H The Age of Experiments (joint graduate/undergraduate)/ *P. Wróbel*
HIS 1291H Topics in Russian and Soviet Social History (joint graduate/undergraduate)/*R. E. Johnson*
HIS 1292H The Russian Revolution/*R. E. Johnson*
HIS 1293Y Kievan Rus'/*P. Magocsi*
HIS 1295H Soviet History Seminar (joint graduate/undergraduate)/ *L. Viola*
HIS 1296H Problems in Russian and Soviet Foreign Policy/*A. Rossos*
HIS 1297H Problems of Political Survival in Eastern Europe Since 1848 (joint graduate/undergraduate)/ *A. Rossos*
HIS 1299H Topics in Russian Intellectual History (joint graduate/undergraduate)/*W. Dowler*
JHP 1289Y Twentieth-Century Ukraine (joint graduate/undergraduate)/ *P. Magosci*
JHP 2301Y Linguistic and Cultural Minorities in Europe/*P. Magosci*

***Historiography and Historical Methodology***

HIS 1000H Historiography/*C. T. McIntire*
HIS 1010H History by Numbers: The Uses and Misuses of Quantitative Evidence in History/*R. E. Johnson*
HIS 1015H Colonial Encounters and Postcolonial Theory/*A. Greer, S. Hawkins*
HIS 1020H Approaches to Cultural History/ *P. Rutherford*
HIS 1025H Explorations in Comparative History/*R. Halpern*
HIS 1030H Oral History: Theory, Methods, Practice/*R. Halpern*
HIS 1543Y Topics in Material Culture/ *A. Hood*
HIS 1997H The Practice of History/*Staff*

***International Relations***

HIS 1142Y Canadian Foreign Relations (joint graduate/undergraduate)/*Staff*
HIS 1296H Problems in Russia and Soviet Foreign Policy/*A. Rossos*
HIS 1297H Problems of Political Survival in Eastern Europe Since 1848 (joint graduate/undergraduate)/ *A. Rossos*
HIS 1530H American Foreign Policy in the Twentieth Century/*R. D. Accinelli*
HIS 1532H American Foreign Policy in the Cold War/*R. Pruessen*
HIS 1630H Appeasement/*S. Aster*

HIS 1631H Intelligence and International Relations/*W. Wark*
HIS 1635H The Great Powers and the Spanish Civil War, 1936-1939/*D. P. Smyth*
HIS 1637H Culture and the Cold War (joint graduate/undergraduate)/ *W. Wark*
JBP 2230H Postwar International Systems/ *J. Kirton, A. Rugman*
JHP 2231H The History and Philosophy of International Relations Thought/ *D. Walsh, W. Wark*
JPD 2232H International Governance/ *H. Friedman, J. Kirton*

***Jewish History***
HIS 1274H The Nazis, Occupied Europe, and the Jews/*M. R. Marrus*
HIS 1277H The Jews in Western Europe, 1648-1933/*D. Penslar*
HIS 1287H Polish Jews Since the Partitions of Poland (joint graduate/undergraduate)/*P. Wróbel*

***Latin American History***
HIS 1701H Topics in Modern Latin American History (joint graduate/undergraduate)/*D. L. Raby*
HIS 1702H Topics in the Social History of Colonial Spanish America, 1492-1820/*P. Blanchard*
HIS 1704H Latin America in the Age of Independence/*P. Blanchard*

***History of Medicine***
HIS 1170H History of Health Care in Canada (joint graduate/undergraduate)/ *M. Bliss*
HIS 1175H Social Movements in Health and Medicine in Britain, Canada, and the United States During the Nineteenth and Twentieth Centuries (joint graduate/undergraduate)/*J. Connor*
HIS 1269H The Social History of Medicine in the Nineteenth and Twentieth Centuries (joint graduate/undergraduate)/*E. Shorter*
HIS 1270H History of Psychiatry and Psychiatric Illness (joint graduate/undergraduate)/*E. Shorter*
HPS 1025H History of Immunology/*Staff*
HPS 1045H Human Genetics and the Eugenics Movement/*Staff*
HPS 5006H Fundamentals of the History of Medicine/*M. Hubenstorf*

***Medieval History***
HIS 1201H The Materials of Medieval History (CR/NCR)/*J. Goering*
HIS 1204H The Life and Writings of Thomas Aquinas/*J. Goering*
HIS 1206H Popular Religion in the Middle Ages/*J. Goering*
HIS 1207H Pastoralia: The Medieval Literature of Pastoral Care/*J. Goering*
HIS 1208H Writings of Robert Grosseteste/ *J. Goering*
HIS 1209H The Anglo-Saxons/*A. C. Murray*
HIS 1211H History and Historiography in the Golden Legend (joint graduate/undergraduate)/*J. Goering*
HIS 1213H Medieval Monasticism (joint graduate/undergraduate)/ *I. Cochelin*
HIS 1214H The Merovingians/*A. Murray*
HIS 1215H Social Change in Medieval England, 1154-1279/*M. Gervers*
HIS 1218H The Mediaeval Church/*G. Silano*
HIS 1220H Mediaeval Law (joint graduate/undergraduate)/*G. Silano*
MST 1110H Diplomatics and Diplomatic Editing (PR)/*M. Meyerson*
MST 3201Y Medieval Social History, 1000-1500/*M. Meyerson*
MST 3205Y Violence in Medieval Society (joint graduate/undergraduate)/ *M. Meyerson*
MST 3210H Medieval Spain, ca. 1000-1300 (PR)/*M. Meyerson*
MST 3211H Medieval Spain, ca. 1300-1525 (PR)/*M. Meyerson*
MST 3215H Family and Society in the Medieval Crown of Aragon (PR)/ *M. Myerson*
MST 3225H Jews and Christians in Medieval and Renaissance Europe (joint graduate/undergraduate)/ *M. Meyerson*
MST 3261H Cluny in the Central Middle Ages/ *I. Cochelin*
MST 3265H Hagiographies/*I. Cochelin*

***History of Women and Gender Relations***
HIS 1101H Race and Gender in the Northern Colonies of North America/ *J. Noel*
HIS 1153H Topics in Women's History (joint graduate/undergraduate)/ *S. Van Kirk*
HIS 1154H Directed Research in Women's History (joint graduate/undergraduate)/*S. Van Kirk*

(CR/NCR) Credit/No Credit
(PR) Courses with prerequisites

HIS 1167H Selected Topics in Gender History/*F. Iacovetta*
HIS 1230H The Sexes in the Western World, 1450-1650/*J. Abray*
HIS 1245H Women in Early Modern Europe/ *B. Todd*
HIS 1269H Gender, Race and Nation: Rewritings of the History of Nations/Nationalisms in Modern Europe and Beyond/ *K. Hagemann*
HIS 1528H Crossing Boundaries: Race, Ethnicity, Class and Gender in America, 1880-1930/*J. Ingham*
TPS 1430H Gendered Colonialisms, Imperialisms and Nationalisms in History/*R. Pierson*

***M.A. Essay***
HIS 2000Y Directed Research

***Reading Courses***
HIS 1998H,Y As prescribed
HIS 1999H,Y As prescribed

**Other Departments**
Students may take the following courses offered by other graduate units for graduate history credit.

See also ***Comparative Literature*** entry:
COL 5024Y Thomas More: Renaissance Humanism and the History of Utopian Thought/*B. Stock*
COL 5027H Memory, Trauma and History/*T. Lahusen*

See also ***Criminology*** entry:
CRI 3150H Crime, Law, and the State in Early Modern England, 1650-1850/*J. M. Beattie*
CRI 3160H Historical Approaches to Crime and Justice in Canada/*Staff*

See also ***East Asian Studies*** entry:
EAS 1114Y Chinese Source Materials and Reference Works/*Staff*
EAS 1140Y From Republic to People's Republic: The Chinese Revolution from 1895 to the Present/ *V. Falkenheim*
EAS 1141H East Asian Historiography I/ *R. Guisso, A. Schmid*
EAS 1142H East Asian Historiography II/ *A. Schmid, R. Guisso*
EAS 1143Y Civilization in Medieval China/ *R. Guisso*
EAS 1346Y Topics in the Social History of Tokugawa Japan/*S. Uyenaka*

See also ***Economics*** entry:
ECO 2210Y Topics in the Economic and Social History of Later Medieval Europe, 1250-1600/*Staff*
ECO 2214Y The International Economy, 1870-1970/*Staff*
ECO 2234H Topics in North American Economics History/*Staff*
ECO 2236H The Modernization of the European Economy, 1750-1939/*Staff*

See also ***Geography*** entry:
GGR 1700H Seminar in Cultural-Historical Geography/*J. H. Galloway*

See also ***History and Philosophy of Science and Technology*** entry:
HPS 1015H The Scientific Revolution: Galileo to Newton/*B. Baigrie*
HPS 1021H The Intellectual Context of Nineteenth-Century Science/*T. H. Levere*
HPS 1036H History of Engineering/*J. Langins*
HPS 1037H Science in Canadian History/*T. H. Levere*
HPS 1043H Science in the Renaissance/ *B. Baigrie*
HPS 1215H Medieval Technology and Society/*B. Hall*
HPS 1216H Medieval Technology: Selected Topics/*B. Hall*
HPS 1217H Technology and War: 1090-1918/ *B. Hall*

See also ***Medieval Studies*** entry:
MST 1101H Codicology/*V. Brown*
MST 1104H Latin Palaeography I/*V. Brown*
MST 1105H Latin Palaeography II/*V. Brown*
MST 1110H Diplomatics and Diplomatic Editing/*M. Meyerson*
MST 2038H St. Patrick and the Early Irish Church/*M. Herren*
MST 3201H Medieval Social History, 1000-1500/*M. Meyerson*
MST 3115H Popular Learning in the Middle Ages/*E. R. Harvey*
MST 3405H Early Medieval Monasticism/ *R. Sinkewicz*
MST 3415H John Cassian and Early Monasticism in Gaul/ *R. Sinkewicz*

See also ***Near and Middle Eastern Civilizations*** entry:
NMC 2090Y Islamic History to the Fall of Baghdad/*L. Northrup*
NMC 2095Y The Islamic Response to the Crusades: 1095-1291 A.D./ *H. Dajani-Shakeel*

NMC 2112Y Medieval Islamic Institutions/*L. Northrup*
NMC 2140Y Political and Economic Development in the Arab World from the Tanzimat to 1914/*A. Jwaideh*
NMC 2155Y The Emergence of Modern Iraq/*A. Jwaideh*
NMC 2170Y Topics in Modern Middle East History/*J. A. Reilly*
NMC 2171Y Social and Economic History of the Modern Middle East/*J. A. Reilly*
NMC 2310Y Ottoman History to 1800/*J. R. Blackburn*
NMC 2315Y Seminar in Topics from Ottoman History/*J. R. Blackburn*

See also ***Religion*** entry:
RLG 2021H Historiography of Religions/*C. T. McIntire*
RLG 3423H Religion in the Japanese Tradition/*J. S. Brownlee*
RLG 3424H Religion and Society in Classical Japan/*N. McMullin*

See also ***Theory and Policy Studies in Education*** entry:
TPS 1425H Class Formation and Its Relation to the Schools/*C. Morgan*
TPS 1426H The History of Women and Education in Canada/*C. Morgan*
TPS 1428H Immigration and the History of Canadian Education/*H. Troper*
TPS 1429H Ethnicity and the History of Canadian Education/*H. Troper*
TPS 1430H Gendered Colonialisms, Imperialisms and Nationalisms in History/*C. Morgan*
TPS 1448H Popular Culture and the Social History of Education/*C. Morgan*
TPS 1461H Special Topics in History/*C. Morgan*
TPS 3428H Minority Concerns and Education in Canadian History: Selected Topics/*H. Troper*

# History and Philosophy of Science and Technology HPS

## Graduate Faculty

### Full Members

B. S. Baigrie, BA, MA, PhD/IHPST
E. J. Barbeau, BA, MA, PhD/Mathematics
C. C. Berger, BA, MA, PhD, FRSC/History
M. Bliss, BA, MA, PhD, FRSC/History
J. R. Brown, BA, MA, PhD/Philosophy
R. B. de Sousa, BA, PhD/Philosophy
C. G. Fraser, BA, MA, PhD/IHPST
***(Coordinator of Graduate Studies)***
Y. Gingras, BSc, MSc, PhD/IHPST
I. M. Hacking, BA, MA, PhD, FRSC, University Professor/Philosophy
B. S. Hall, BA, PhD/IHPST
S. Hong, BA, PhD/IHPST
A. R. Jones, BA, PhD, FRSC/Classics
J. Langins, BEng, MA, MEng, PhD/IHPST
***(Director)***
T. H. Levere, BA, MA, DPhil, DLitt, FRSC/IHPST
M. C. Morrison, BA, MA, PhD/Philosophy
R. L. L. Salter, BA, MA/IHPST
M. Schabas, BS, AM, MA, PhD/IHPST
W. E. Seager, BA, MA, PhD/Philosophy
E. L. Shorter, BA, MA, PhD, FRSC/History
S. G. Solomon, BA, MA, CertRussInst, PhD/Political Science
I. L. Stefanovic, BA, MA, PhD/Philosophy
N. M. Swerdlow, BA, MA, PhD/IHPST
R. P. Thompson, BA, MA, PhD/Philosophy
A. I. F. Urquhart, MA, PhD/Philosophy
F. F. Wilson, BSc, PhD, FRSC/Philosophy
M. P. Winsor, AB, MPh, PhD/IHPST
D. A. Wolfe, BA, MA, PhD/Political Science
S. E. Zeller, BA, MA, PhD/IHPST

### Members Emeriti

J. D. Fernie, BSc, MSc, PhD, FRSC/IHPST
U. M. Franklin, PhD, LLD, DSc, DDN, CC, FRSC, University Professor Emeritus/Metallurgy & Materials Science
R. J. Helmstadter, BA, MA, PhD/History
P. M. H. Mazumdar, MSc, MD, PhD/IHPST
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The Institute conducts research, offers programs for advanced studies, 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. The IHPST colloquia, in which degree candidates participate, are open to the University community.

Courses are conducted in seminar style and involve the writing of essays and the presentation of reports.

Degree requirements and procedures described below supplement the regulations given at the beginning of this calendar. Applicants for admission to the Institute's degree programs should arrange for two or three letters of recommendation to be sent directly to the Institute and should submit a statement of their academic background, interests, and needs to the graduate coordinator.

### Degree of Master of Arts

Admission to the M.A. program requires a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university. The very broad scope of the field and the variety of fruitful approaches to it imply that many different backgrounds are appropriate. Candidates must meet the general regulations of the School of Graduate Studies with some experience in both the sciences and the humanities.

The program for the M.A. degree consists of a minimum of seven half-course equivalents. At least one half-course must be in the philosophy of science and at least three half-courses must be from the 5000 fundamentals series. Students must also complete HPS 1500H, which involves the writing of a research paper. The remainder of the program is selected by the student in consultation with the faculty, according to the student's background and interests. The student must demonstrate ability to read French or German adequately.

It is expected that a full-time student will complete all the requirements for the degree during one year of residence.

### Degree of Doctor of Philosophy

Applicants approved by the Institute are admitted as candidates for the Ph.D. degree under the general regulations of the School of Graduate Studies. Admission to the doctoral program requires a University of Toronto M.A. degree in the History and Philosophy of Science and Technology, or its equivalent from a recognized university. Applicants must normally have at least an A average in previous graduate work.

Students must complete six half-course equivalents during the first year of the Ph.D.

program, as approved by the Institute. These will include courses in the 5000 fundamentals sequence as are necessary to ensure an adequate breadth of preparation. The remaining courses are selected by students in consultation with the faculty, according to the student's background and research interests. The requirement of six half-course equivalents may be waived, or modified, for students who have completed additional courses, beyond seven half-course equivalents, at the M.A. level. However, such students will be required to take any courses that are necessary to prepare them for research.

All students must pass a qualifying examination in areas related to the field of expected research. This exam will be held by the middle of the second year of the Ph.D. program, except that for students whose course requirements have been waived, the examination must be held by the end of the first year of the Ph.D. program.

All students must demonstrate reading knowledge of French and another language (normally German), and any other languages required for the research. The language requirements must be met before the qualifying examination is held. Before work on the thesis can begin, a thesis proposal must be approved by the faculty. The proposal should be submitted at the time the student takes the qualifying examination.

Students will normally be required to be in residence for a minimum of one year. "In residence" means being on campus full time and consequently in such geographical proximity as to be able to visit the campus regularly and to participate fully in the Institute's activities. Ideally the student should complete work for the degree in four years. For more details refer to the departmental handbook.

**Courses of Instruction**

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/*Staff*
HPS 1001H,Y Individual Reading and Research/*Staff*
HPS 1002H Individual Reading and Research/*Staff*
HPS 1003H Individual Reading and Research/*Staff*
HPS 1005H Historical Topics in Scientific Methodology/*B. S. Baigrie*
HPS 1006H Historical Introduction to the Sociology of Scientific Knowledge/*Staff*
HPS 1015H The Scientific Revolution: Galileo to Newton/*B. Baigrie*
HPS 1017H,Y Topics in the History of Physics in the Eighteenth and Nineteenth Centuries/*S. Hong*
HPS 1018Y Topics in the History of Technology/*B. Hall*
HPS 1019H,Y History of Systematics/*M. P. Winsor*
HPS 1020H,Y History of Evolutionary Biology/ *M. P. Winsor*
HPS 1021H,Y The Intellectual Context of Nineteenth-Century Science/*T. H. Levere*
HPS 1024H History of Physiology/*Staff*
HPS 1025H History of Immunology/*Staff*
HPS 1027H Chemistry from Lavoisier to Mendeleev/*T. H. Levere*
HPS 1029H,Y The Invention of Modern Biology/ *M. P. Winsor*
HPS 1030H Newton and Mechanics/ *B. Baigrie*
HPS 1036H History of Engineering/ *J. Langins*
HPS 1037H Science in Canadian History/ *T. H. Levere*
HPS 1038H,Y Topics in the History of Chemistry, 1600-1950/*T. H. Levere*
HPS 1043H Science in the Renaissance/ *B. Baigrie*
HPS 1045H Human Genetics and the Eugenics Movement/*Staff*
HPS 1050H Topics in Ancient Greek and Scientific Revolution Mathematics/*C. Fraser*
HPS 1052H The Emergence of Modern Mathematics in the Eighteenth and Nineteenth Centuries/ *C. Fraser*
HPS 1101H Philosophy Applied to History of Science/*B. Baigrie*
HPS 1214H Studies in Ancient and Medieval Science/*A. R. Jones*
HPS 1215H Medieval Technology and Society/*B. S. Hall*
HPS 1216H Medieval Technology: Selected Topics/*B. S. Hall*
HPS 1217H Technology and War: 1090-1918/ *B. S. Hall*
HPS 1500H Research Paper
HPS 2000Y Major Research Paper
HPS 3000H Historiography of Science and Technology/*M. P. Winsor*
HPS 5001H Fundamentals of the History of Mathematics/*C. Fraser*

HPS 5002H Fundamentals of the History of Physics/*S. Hong*
HPS 5004H Fundamentals of the History of Chemistry/*T. H. Levere*
HPS 5005H Fundamentals of the History of Biology/*M. P. Winsor*
HPS 5006H Fundamentals of the History of Medicine/*Staff*
HPS 5007H Fundamentals of the History of Technology I/*B. Hall*
HPS 5008H Fundamentals of the History of Technology II/*J. Langins*
HPS 5009H Fundamentals of the History of Astronomy/*C. Fraser*
JPH 2192H Philosophy of Science/ *B. Baigrie, Staff*
JPH 2194H Topics in History of the Philosophy of Science/*B. Baigrie*

***Outside Courses of Possible Interest***
Check with individual departments for course availability 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 1525H Topics in Ancient Physical Science/*A. Jones*
CLA 1537H Topics in Ancient Natural Philosophy/*A. Jones*

*Comparative Literature*
COL 1350Y Literature and Thought in Early Modern Europe/*B. Stock*
COL 3060H Word, Image, and Narrative in Late Antiquity and the Middle Ages/*B. Stock*
COL 3065H Augustine, Pascal, Rousseau/ *B. Stock*
COL 3070H Chapters in the History of Reading/*B. Stock*
COL 3175H Augustine: Early Philosophical Writings/*B. Stock*

*History*
HIS 1170H History of Health Care in Canada/*M. Bliss*
HIS 1269H The Social History of Medicine in the Nineteenth and Twentieth Centuries/*E. Shorter*
HIS 1270H History of Psychiatry and Psychiatric Illness/*E. Shorter*

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/*L. Jeffrey*
C&T 1007H Perspective and Design in the Twentieth Century/*Staff*

*Medieval Studies*
MST 3018H The Classical Tradition in the Middle Ages I: the Transmission of Texts and the Ancient Curriculum
MST 3201Y Medieval Social History (1000-1500)/*M. Meyerson*
MST 3321H Philosophy of Mind/*D. Black*
MST 3601H Material Culture of the Middle Ages I, 200-1000 A.D.
MST 3602H Material Culture of the Middle Ages II, 1000-1500 A.D.

*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 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

# History of Art FAH

## Graduate Faculty

### Full Members

J. E. Caskey, AM, MA, MPh, PhD
M. A. Cheetham, BA, MA, PhD
L. V. Golombek, MA, PhD
M. Gotlieb, BA, MA, PhD
***(Chair)***
W. McA. Johnson, MA, MFA, PhD
E. M. Kavaler, BA, MA, PhD
M. Koortbojian, BA, MA, PhD
E. M. M. Legge, BA, MA, PhD
E. Levy, MFA, PhD
M. C. Miller, BA, AM, PhD
A. Nagel, BA, MA, PhD
A. A. Payne, BArch, MA, PhD
***(Coordinator of Graduate Studies)***
D. Reid, BA, MA
D. S. Richardson, BA, MA, PhD
P. L. Sohm, BA, MA, PhD
B. M. Welsh-Ovcharov, BA, MA, PhD
J. T. Wollesen, PhD, Dr phil habil

### Members Emeriti

H. A. Brooks, MA, PhD, DEng
L. Eleen, BA, MA, PhD
H-K. Lücke, DrPhil
T. Martone, MA, PhD
G. Scavizzi, PhD
J. W. Shaw, BA, MAT, PhD, DHumLett
M. C. Shaw, BA, MA, PhD
R. Siebelhoff, BA, MA, PhD
F. E. Winter, PhD

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Candidates are admitted under the general regulations. Applicants for the M.A. program should have a strong overall grade average in the history of art and closely related subjects, with at least a B+ average in recent senior art history courses. The Department also welcomes applications from outstanding candidates with a background other than art history. Normally successful applicants must complete the M.A. before proceeding to the Ph.D. Admission into the Ph.D. program will be based on the level of academic performance in the M.A. program including an average of at least A minus. Candidates can also be admitted directly into the Ph.D. program with a B.A. if they have an exceptionally strong academic record with a grade average of at least an A- in their art history and humanities courses during the last two years. Students in the M.A. program deemed to have achieved high academic performance can apply for transfer into the Ph.D. program at the end of the first year.

A reading knowledge of French, German, or Italian is required and will be tested at entrance. Specific language requirements for individual courses are included in the course listings below; those unable to meet these requirements may be refused admission to the course. Enrolment in all courses is limited and subject to the approval of the instructor.

Candidates from elsewhere, admitted to a post-M.A. degree, may be required to complete at least one full-course equivalent in addition to the program requirements specified for the Doctor of Philosophy degree.

In addition to the normal History of Art program, the Department also participates in an Ancient Studies Program, carried out in collaboration with the departments of Classics and Near and Middle Eastern Civilizations. The program enables students to focus on ancient Mediterranean and/or Near Eastern archaeology, art, and culture. See the listing below (M.A., Ph.D.), and the separate calendar entry for Ancient Studies (Collaborative Program).

## Degree of Master of Arts

### I. History of Art Program

**1** Students are normally admitted to a 1.5 session M.A.

**2** Candidates proceeding to the degree will be required to pursue the equivalent of four full graduate courses. Course work must be chosen from at least three of the four areas designated as Ancient, Medieval, Renaissance/Baroque, and Modern. No more than two full courses may be taken in any one of these areas. The equivalent of one full course may be taken in another graduate department (e.g., Medieval Studies, Near and Middle Eastern Civilizations), subject to the approval of the Department of History of Art and of the other department concerned.

**3** In addition to that required at entry, all M.A. candidates are required to show a reading knowledge of one foreign language, to be approved by the Department. Such reading knowledge will be certified by examinations acceptable to the School of Graduate Studies.

**II. Collaborative Program in Ancient Studies**
(see also separate calendar entry)
**1** Program attendance is for one or two sessions, depending on background.
**2** In a one-session program, at least three graduate full-course equivalents are required, at least one of which must be outside the home department. In a two-session M.A., students are required to take three full-course equivalents during each year, with at least three full-course equivalents at the graduate level.
**3** Languages. Students shall take a course in their chosen ancient language at a level deemed appropriate to their skill in each session that they are enrolled. Candidates expecting to continue into the Ph.D. program may be required to do further language work before they are eligible for admission. Students registered in the M.A. program and hoping to enter the Ph.D. program are required to pass a reading examination in one modern language relevant to their preferred area of study.

**Degree of Doctor of Philosophy**

**I. History of Art Program**
In addition to the general regulations, the following special regulations for the usual Ph.D. in Western Art studies should be observed.
**1** ***Course Requirements.*** All Ph.D. candidates who are admitted after completing the M.A. are required to take, in addition to the course work in the M.A. program, at least 2.5 full graduate courses. These courses shall include, but not exceed, two Credit/No Credit half-courses from the series FAH 3011H, 3012H, 3013H, and 3014H. M.A. and Ph.D. courses in combination should be in three of the four areas into which the History of Western Art is divided (Ancient, Medieval, Renaissance/Baroque, Modern); overall two full-course equivalents must be taken in each of two fields. If a course cuts across boundaries between two areas it shall be designated to one area only. Ph.D. candidates admitted on the basis of a four-year B.A. must take a minimum of 5.5 full-course equivalents in art history with an average grade of at least an A minus. At the end of the first and second years, the student's progress will be reviewed to ensure that the student has made satisfactory progress through the program; this includes maintaining full-time status with a GPA of A minus; completion of all language requirements. Students who fail to make satisfactory progress may be required to transfer to the M.A. program with no loss of accumulated course credits.
**2** ***Travel Requirements.*** Before presenting the doctoral thesis, Ph.D. candidates must normally have spent at least three months in travel and research on an itinerary approved by the graduate department.
**3** ***Examinations and Seminar.*** Within the first two years, candidates are required to take two comprehensive examinations, one chosen from the four areas designated above and one chosen from the dissertation area. In the year following the completion of the comprehensive examinations, candidates will conduct a seminar for the faculty and students of the Department on an aspect of their thesis topic.
**4** ***Language Requirements.*** Ph.D. students are required to pass examinations in two languages (German; and either French or Italian) if they have not already done so in the M.A. program. This requirement must be completed before taking the comprehensive exams. Additional languages may be required depending on the research needs of the student's dissertation topic.
**5** ***Areas of Study.*** Subject to availability of staff supervision, acceptances will be limited to Ph.D. candidates who propose theses in the following areas:
**a** Ancient (Bronze Age Aegean; Greek and Roman Architecture, Painting, and Sculpture);
**b** Medieval (Painting and Sculpture);
**c** Renaissance and Baroque Architecture, Painting, and Sculpture;
**d** Modern (Nineteenth- and Twentieth-Century Architecture, Sculpture, and Painting in Europe and North America).

**II. Collaborative Program in Ancient Studies**
(see also separate calendar entry)
**1** ***Course Requirements.*** Normally three full-course equivalents, at least one of which must be taken in another department.
**2** ***Travel Requirements.*** Students whose major field involves material culture (e.g., art history and archaeology) will normally be required to spend three months of research outside North America before submitting the thesis.
**3** ***Examinations, Major and Minor Fields.*** The candidate will normally spend the second year preparing for these examinations. Normally four months will be spent preparing for the first minor field examination and eight months for the major field examination. See also Ancient Studies Collaborative Program entry.
**4** ***Languages.***
*Modern:* one, before entering the Ph.D.; another during the first year of the program.
*Ancient:* for admission into the Ph.D., candidates offering Greek or Latin must have completed a University of Toronto Greek or Latin 400 level course or equivalent with B+ or better. For work in certain research areas, further lan-

guage work may be required. While in the program, they will take a course in the relevant language at a level deemed appropriate to their skill in each session that they are enrolled until they have successfully completed either
**a** their minor fields, or
**b** at least one course at the graduate level involving substantial reading in the original language and examination on the present Greek or Latin "Reading List for ASP," each with a grade of B+ or better; or
**c** the Classics M.A. sight translation examination. For students electing another ancient language, individual arrangments will be made.

**Courses of Instruction**
Ability to read several languages other than English is essential for all students undertaking graduate work in History of Art; therefore, admission to the courses listed below will be restricted to applicants who meet the minimum language requirements stated for each course.
All courses are not offered each year. Please check the departmental handbook for course availability.

***Ancient***
FAH 2000Y The Aegean in the Bronze Age (French or German, modern Greek useful)/*Staff*
FAH 2001H Special Problems in Bronze Age Aegean Archaeology (prerequisite FAH 2000Y or its equivalent; French and/or German, modern Greek useful)/*Staff*
FAH 2005H Minoan Architecture: Concept and Style/*Staff*
FAH 2010H Aegean Wall Painting and Artistic Interconnections with Egypt and the Far East (German, Italian, French, or modern Greek)/*Staff*
FAH 2014H Greeks and the East (French, German, Italian, Greek, or Turkish)/*M. C. Miller*
FAH 2015H The Arts of Fifth-Century Athens (French, German, or modern Greek)/*M. C. Miller*
FAH 2020H Attic Vase Painting (French, German, Italian, or Greek)/*M. C. Miller*
FAH 2030H Rome's Monumental Topography (Italian necessary; German recommended)/*M. Koortbojian*
FAH 2032H History and Myth/*M. Koortbojian*
FAH 2035H Hellenistic Naturalism and Its Roman Legacy/*M. Koortbojian*
FAH 2040H Monument and Epitaph/*M. Koortbojian*
FAH 2050H Roman Portraiture/*M. Koortbojian*
FAH 2055H The Art of Late Antiquity/*M. Koortbojian*

***Medieval***
FAH 1129H The Medieval Ages: Approaches, Means and Ends from the Renaissance to the Present/*J. Wollesen*
FAH 1130Y The Classical Tradition in Western Medieval Art (German)/*J. T. Wollesen*
FAH 1131H Profane Medieval Art (French and German recommended)/*J. T. Wollesen*
FAH 1132H Art and Architecture of Southern Italy and Sicily, ca. 1050-1350: Crossroads and Frontier (French and Italian)/*J. Caskey*
FAH 1133H The Normans in Southern Italy and Sicily/*J. Caskey*
FAH 1134H Communal Painting and Propaganda in Italy During the Thirteenth and Fourteenth Centuries/*J. T. Wollesen*
FAH 1228H Representation, Information, and Interpretation of Medieval Pictures/*J. T. Wollesen*

***Renaissance and Baroque***
FAH 1209H The Uses of Tradition in Renaissance Art (German, Italian, or Latin useful)/*A. Nagel*
FAH 1211H The Altarpiece in Renaissance Italy/*A. Nagel*
FAH 1213H Art Historiography in Italy, 1550-1750/*P. L. Sohm*
FAH 1215H History of Bad Art from Gothic to Rococo/*P. L. Sohm*
FAH 1218H Michelangelo/*A. Nagel*
FAH 1222H Andrea Palladio: Theory and Practice/*A. A. Payne*
FAH 1223H The Architectural Treatise in the Renaissance/*A. A. Payne*
FAH 1245H Pieter Bruegel and Netherlandish Sixteenth Century Painting/*E. M. Kavaler*
FAH 1246H Renaissance Gothic/*E. M. Kavaler*
FAH 1250H Renaissance Sculpture and Architecture in the Netherlands (French, German, or Dutch)/*E. M. Kavaler*

FAH 1255H Caravaggio/*P. Sohm*
FAH 1280H Art and Reform in Early Sixteenth-Century Italy/*A. Nagel*
FAH 1285H The Art and Architecture of the Counter Reformation/*E. Levy*
FAH 1286H The Baroque: Models of Persuasion/*E. Levy*
FAH 1288H Gianlorenzo Bernini/*E. Levy*
FAH 1305H Administrations, Collectors and Dealers in France, 1648-1824 (French)/*W. McA. Johnson*
FAH 1310H History Painting in France, 1648-1824/*W. McA. Johnson*
FAH 1311H Prints and the Ancien Régime (French)/*W. McA. Johnson*
FAH 1320H Orientalism in French Nineteenth-Century Painting/*M. Gotlieb*

***Modern***
FAH 1410H Artwriting, Past and Present/*M. Cheetham*
FAH 1420H Theories of the Sublime in Art/*M. Cheetham*
FAH 1455H The Paris Salon, 1784-1900/*M. Gotlieb*
FAH 1468H The Enemies of Impressionism/*M. Gotlieb*
FAH 1470H Vincent van Gogh (French, Dutch, or German)/*B. M. Welsh-Ovcharov*
FAH 1474H Avant-Garde, Neo-Avant-Garde/*E. M. M. Legge*
FAH 1475H Picasso/*E. M. M. Legge*
FAH 1476H Surrealism and Post-World War II Art in Europe, the United States, and Canada (French or German)/*E. M. M. Legge*
FAH 1600H Architectural Theory in the English-speaking World During the Eighteenth and Nineteenth Centuries/*D. S. Richardson*
FAH 1700H Problems in Canadian and American Architecture/*D. S. Richardson*
FAH 1710H The Architecture of Victorian Toronto/*D. S. Richardson*
FAH 1750H Theory, History, Criticism, and the Formation of the Modern Movement in Architecture (French or German)/*A. A. Payne*
FAH 1753H Architectural Ornament and the Discourse of Modernism/*A. A. Payne*
FAH 1800H James Wilson Morrice/*D. Reid*
FAH 1850H Cornelius Krieghoff: Images of Canada/*D. Reid*
FAH 1870H Recent Canadian Art in International Perspective/*M. Cheetham*
FAH 1900H Leduc, Thomson, Harris, and Carr: Aspects of Canadian Landscape Painting in the Early Twentieth Century/*D. Reid*

***Exhibitions, Collections, and Museums***
FAH 3004H Special Studies in Collections/*Staff*
FAH 3005H Exhibitions and Collections: Catalogues and Publications (French; German, Italian desirable. FAH 450/1000 suggested preparation)/*W. McA. Johnson*
FAH 3010H Art and the Museum/*Staff*

***Reading Courses***
FAH 3000Y,H Special Studies in History of Art/*Staff* (Only one full-course equivalent with this prefix is permitted in any one degree program.)
FAH 3011H Readings in Ancient Art (CR/NCR)/*Staff*
FAH 3012H Readings in Medieval Art (CR/NCR)/*Staff*
FAH 3013H Readings in Renaissance and Baroque Art (CR/NCR)/*Staff*
FAH 3014H Readings in Modern Art (CR/NCR)/*Staff*

***Research Paper***
FAH 4000L Research Paper/*Staff*

***Joint Courses with Other Departments***
JAI 1000H Joint Ancient Interconnections: The Eastern Mediterranean During the Middle and Late Bronze Age Period (CR/NCR)/*Staff*
JAI 1005H Joint Ancient Interconnections: The Empires of Persia and Athens—The Achaemenid Period (ca. 550-330 b.c.) (CR/NCR)/*Staff*

***Undergraduate/Graduate Courses***
Aside from those listed below, from time to time the Department may offer fourth-year undergraduate courses which have been recognized for graduate credit. See the departmental handbook.

FAH 3422H Art on Thera ca. 1500 b.c./*Staff*
FAH 3423H The Palaces of Minoan Crete/*Staff*

FAH 3442H Bronze Age Aegean Religious Art and Architecture/*Staff*

***Relevant Courses in Other Departments***

NMC 2500Y Introduction to Islamic Art and Architecture/*Staff*
NMC 2520H Western Medieval Islamic Architecture/*L. V. Golombek*
NMC 2521H The Taj Mahal and Its Origins: Medieval Islamic Architecture in Iran, Central Asia, and India/*L. V. Golombek*
NMC 2526H Islamic Painting/*L. V. Golombek*
NMC 2527H Islamic Decorative Arts/*L. V. Golombek*

# Human Development and Applied Psychology HDP

## Graduate Faculty

### Full Members

M. L. Arnold, BA, MA, EdD
J. W. Astington, BA, BSc, MA, PhD
L. R. Atkinson, BA, MA, PhD, CPsych
C. J. Bereiter, BA, MA, PhD, LLD
A. J. Biemiller, BA, MS, PhD
C. M. Corter, BA, PhD
A. H. Cumming, BA, MA, PhD
J. M. Ducharme, BA, MA, PhD
M. Eagle, BA, MA, PhD
J. Friedland, BA, Dip(P&OT), MA, PhD
E. Geva, BA, MA, PhD, CPsych
L. E. Girolametto, BA, MSc, PhD
J. E. Grusec, BA, PhD
C. C. Helwig, BA, PhD
N. Howe, PhD
T. W. Humphries, BA, MA, PhD, CPsych
J. Jenkins, BA, MA, PhD, CPsych
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M. D. Lewis, BA, MA, PhD, CPsych
***(Assoc. Chair, Graduate Studies)***
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K. Oatley, BA, PhD
***(Chair)***
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A. Perry, BA, MA, PhD, CPsych
M. Peterson-Badali, BA, MA, PhD, CPsych
D. T. Reid, BSc(OT), MEd, PhD
J. Rovet, BSc, PhD
J. A. Saint-Cyr, BA, MA, PhD
M. A. Scardamalia, BA, MS, PhD
R. J. Schachar, MD, FRCP(C)
M. A. Schmuckler, PhD
B. Schneider, BA, MEd, PhD
K. E. Stanovich, BA, MA, PhD
R. Tannock, MCSP, BSc(PT), MA, MD, PhD
S. E. Trehub, BComm, MA, PhD
R. Volpe, BA, MA, PhD
J. Wiener, BA, MEd, PhD, CPsych
D. M. Willows, BA, MA, PhD, CPsych
E. Woodruff, BSc, BEd, MA, PhD
P. D. Zelazo, PhD, Canada Research Chair
K. J. Zucker, BA, MA, PhD, CPsych

### Members Emeriti

B. Flint, MA, DipCS
P. H. Lindsay, BA, MA, PhD
C. M. Musselman, BA, PhD, CPsych
U. Shafrir, BSc, PhD

### Associate Members

N. Benson, PhD
C. Brandys
J. Brockmeier, MA, PhD
M. Ferrari, BA, MA, PhD
J. Hardacre, BA, MEd, DipCS, EdD
N. Link, BA, MA, PhD, CPsych
S. Mackay, BSc, MA, PhD
M. Malone, BSc, MA, PhD
D. Matthews, BES, MEd, PhD
D. McGhie-Richmond, PhD
J. Moss, PhD
J. Pelletier, BA, BEd, OTC, MEd, PhD
M. Perlman, PhD
J. Peskin, PhD
K. Scott, PhD
M. Taylor, BA, MA, PhD
A. Toneatto
E. Winter, PhD
J. Worling, BSc, MA, PhD, CPsych

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The Department of Human Development and Applied Psychology currently offers four graduate programs.

Consult the *OISE/UT Bulletin* for full 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 M.Ed. program in Human Development and Education in September, January, or July, but all other programs in the Department commence in September.

### Master of Arts in Child Study and Education

The Institute of Child Study offers a two-year perservice, research-based teaching program that uniquely combines a Master of Arts degree with the Ontario Teachers' Certificate of Qualification. The Institute is a centre of professional training and research in childhood and education and includes a laboratory school.

Admission 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, and experience working with groups of children.

The core assumption of this program is that successful teaching involves an understanding of how children's capacities, concerns, and behaviour change with age; how children's individual differences tend to reflect developmental changes; and how children's social and physical environments influence their development.

Our aim is to acquaint students with educational and developmental theory and research that is relevant to educational settings, showing how this research can inform classroom practice. Students also learn how to objectively study children, including both practical assessment and formal methods of inquiry. These areas of knowledge must be combined with knowledge of effective teaching methods and teaching environments so that educational practices can build on children's current levels of development.

The two year M.A offers a unique, research-based teacher education. Eligible graduates are recommended to the Ontario College of Teachers for an Ontario College of Teachers' Certificate of Qualification. This qualifies the holder to teach in the primary and junior divisions of Ontario schools. Graduates will be recommended for Part 1 of the three-session qualification in Primary Education. Graduates will also be eligible for Part 2 of the three-session qualification in Primary Education following one year's successful teaching experience as attested by the appropriate supervisory officer.

Students wishing to be eligible for part 1 of the three-part qualification in Special Education may elect to take the required courses and practicum as part of their program.

Students will complete four 6-week half-day placements in classrooms including: kindergarten/early childhood, grade 1-3, and grade 4-6 classrooms plus at least one other 6-week placement during their first year of study. Students will complete a 3.5 month full-time internship in an elementary classroom in their second year of study. Students planning further graduate study may elect to complete a Qualifying Research Project.

For details of the one-year program in Child Study and Education (open only to graduates of the Diploma in Child Study with a concentration in Childhood Education or Early Childhood Education from the University of Toronto and who already hold an Ontario Teachers' Certificate of Qualification) please see the *OISE/UT Bulletin.* Courses numbered from 2200 to 2230 are specific to this program.

**Human Development and Education**

The Human Development and Education program offers studies leading to the M.A., M.Ed., Ph.D., and Ed.D. degrees. Students have an opportunity to construct an overall perspective on human development and its implications for practice with children in different applied settings.

Students are required to take core courses in human development and research design. Courses emphasize typical and atypical development in the cognitive and emotional domains and the impact of culture, family, and social relationships on development. The M.A. and Ph.D. programs are designed for students wishing to pursue an academic or research-based career. The M.Ed. and Ed.D. programs are designed for the reflective teacher or other practitioner in education or related fields.

The M.A. program, comprising six half-courses and a thesis, is normally undertaken on a full-time basis. The M.Ed. program, comprising ten half-courses and a comprehensive examination, may be undertaken on a full or part-time basis. The Ph.D. program, comprising six half-courses, a comprehensive examination, and a thesis, is normally undertaken on a full-time basis. The Ed.D. program comprises eight half-courses, an internship, and a thesis. While students may begin the program on a part-time basis, a minimum of one year of full-time study is required.

**School and Clinical Child Psychology**

The School and Clinical Child Psychology program 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 (M.A.) or psychologist (Ph.D.). Opportunities are available for research and clinical work with infants, young children, adolescents, families, and adults with learning disabilities.

The program follows the scientist-practitioner model for psychological training recommended by the American Psychological Association. Emphasis on designing, conducting, and interpreting scientific research parallels emphasis on exemplary clinical practice.

The M.A. program, comprising 11 half-courses (including a practicum course) and a thesis, is normally undertaken on a full-time basis. The Ph.D. program, comprising eight

half-courses (including a practicum course), a comprehensive examination, a doctoral dissertation, and an internship, is normally undertaken on a full-time basis.

**Master of Teaching in Human Development and Curriculum (M.T.)**

The Departments of Curriculum, Teaching and Learning, and Human Development and Applied Psychology offer a two-year Master of Teaching degree in Human Development and Curriculum. Upon successful completion of this program, students will be awarded a Master of Teaching degree and a recommendation to the Ontario College of Teachers for an Ontario Teachers' 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 cooperating departments contribute courses, provide facilities, and provide supervision for graduate research. Students are admitted to the program through either of the two departments.

The Human Development and Curriculum program offers students a unique educational opportunity for teacher qualification with advanced theoretical knowledge and research skills. The program provides students with a strong conceptual grounding in human development, cognitive psychology, educational technology, curriculum, teaching, and learning. The high level of academic rigor in conjunction with increased practicum opportunities serves to enhance and extend the theoretical and practical experiences of students preparing to teach.

Program objectives are achieved through a combination of formal course work, teaching and research seminars, internship and practica, along with independent and collaborative research and major research papers (MRP).

The two-year M.T. degree is composed of the equivalent of 16 half-courses (14 core and two electives), including practica, and is undertaken on a full-time basis. Normally, advanced standing is not granted in this program. In addition to the course work (including practica), all candidates must successfully complete a comprehensive examination at the end of the program in order to graduate and receive the M.T. degree and a recommendation to the Ontario College of Teachers for an Ontario Teachers' Certificate of Qualification. Registration in the second year is contingent upon successful completion of all first-year work.

**Courses of Instruction**

HDP 1200H Foundations of Human Development and Education/*J. Astington, A. J. Biemiller, M. Lewis, Staff*

HDP 1201H Child and Adolescent Development/*Staff*

HDP 1206H Proseminar in Human Development and Applied Psychology/*K. Oatley*

HDP 1209H Research Methods and Thesis Preparation in Human Development and Applied Psychology/*K. Oatley, K. E. Stanovich*

HDP 1211H Psychological Foundations of Early Education/*J. Hardacre, Staff*

HDP 1215H Psychological Assessment of School-Aged Children/*M. Peterson-Badali, K. Scott, J. Wiener*

HDP 1216H Psychoeducational Assessment/*M. Peterson-Badali, J. Wiener, N. Link, K. Scott*

HDP 1217H Foundations of Proactive Behavioural and Cognitive-Behavioural Intervention with Children/*J. Ducharme, Staff*

HDP 1218H Seminar and Practicum in Assessment/*N. Link*

HDP 1219H Ethical Issues in Applied Psychology/*M. Peterson-Badali, Staff*

HDP 1220H Introduction to School and Clinical Child Psychology/*J. Wiener*

HDP 1222H Approaches to Psychotherapy Across the Lifespan/*Staff*

HDP 1223H Depression in the Schools: Assessment, Prevention, and Intervention/*S. Miezitis*

HDP 1233H Cognitive Development and Applications/*J. Astington, M. Ferrari*

HDP 1234H Foundations of Cognitive Science/*D. R. Olson, Staff*

HDP 1236H Developmental Psychopathology/*J. Jenkins, Staff*

HDP 1237H Cognitive Development, Learning and Instruction/*J. Peskin, M. Ferrari*

HDP 1238H Special Topics in Human Development and Applied Psychology/*Staff*

HDP 1241H Outcomes of Early Education and Child Care/*A. J. Biemiller, J. Hardacre, Staff*

HDP 1249H Social-emotional Development and Applications/*M. Perlman, M. Lewis*
HDP 1256H Child Abuse: Intervention and Prevention/*R. Volpe, Staff*
HDP 1259H Child and Family Relationships—Implications for Education/ *J. Jenkins, C. M. Corter, Staff*
HDP 1260H Children, Psychology and the Law/*M. Peterson-Badali, Staff*
HDP 1265H Advanced Topics in Social and Personality Development/*M. L. Arnold, R. Volpe, M. Lewis*
HDP 1272H Play and Education/*J. Hardacre*
HDP 1273H Psychology of Disability and Empowerment/*P. Stanovich, Staff*
HDP 1279H Preventative Interventions for Children at Risk/*R. Volpe, Staff*
HDP 1284H Psychology and Education of Children and Adolescents with Behaviour Disorders/*J. Wiener, Staff*
HDP 1285H Psychology and Education of Children with Learning Disabilities/*T. W. Humphries, J. Wiener*
HDP 1299H Language Acquisition and Development/ *J. Astington*
HDP 2200Y Child Study: Observation, Evaluation, and Reporting/ *R. Volpe, Staff*
HDP 2201Y Childhood Education Seminar and Practicum/*J. Hardacre, Staff*
HDP 2202H Childhood Education Seminar II: Advanced Teaching/*J. Pelletier*
HDP 2210Y Introduction to Curriculum/*Staff*
HDP 2211H Theory and Curriculum I: Language and Literacy/*D. M. Willows*
HDP 2212H Theory and Curriculum II: Mathematics/*J. Moss*
HDP 2221Y Advanced Teaching Practicum
HDP 2230H Designing Education Programs/ *A. Biemiller*
HDP 2252H Individual Reading and Research in Human Development and Applied Psychology: Master's Level/*Staff*
HDP 2275H Technology for Adaptive Instruction and Special Education/*P. Lindsay, Staff*
HDP 2280H Introduction to Special Education and Adaptive Instruction/*C. R. Musselman, J. Wiener, P. Lindsay, Staff*
HDP 2283H Psychology and Education of Gifted Children and Adolescents/*D. Keating*
HDP 2287H Classroom-Based Counselling Approaches/*J. Wiener, Staff*
HDP 2288H Reflective Teaching and Analysis of Instruction/*U. Shafrir*
HDP 2291H Special Topics in Adaptive Instruction and Special Education: Master's Level/*Staff*
HDP 2292H Assessment for Instruction/ *J. Wiener, E. Winter*
HDP 2293H Interpretation of Educational Research/*E. Geva, U. Shafrir*
HDP 2296H Reading and Writing Difficulties/ *D. M. Willows*
HDP 3200H Research Proseminar on Human Development and Applied Psychology/*D. Keating, M. Lewis, K. Oatley*
HDP 3201H Qualitative Research Methods in Human Development and Applied Psychology/*R. Volpe*
HDP 3203H Children's Theory of Mind/*J. W. Astington, Staff*
HDP 3204H Contemporary History and Systems in Human Development and Applied Psychology/ *R. Volpe*
HDP 3208H Research Seminar in Adolescent Development/*Staff*
HDP 3209H Psychology of Language and Literacy/*D. R. Olson and Staff*
HDP 3221H Cross-cultural Perspectives on Children's Problems/*E. Geva*
HDP 3224H Advanced Proactive Behavioural and Cognitive-Behavioural Interventions/*J. Ducharme, Staff*
HDP 3225H Family Contexts and Developmental Psychopathology/ *J. Jenkins, Staff*
HDP 3226H Research Methods and Doctoral Thesis Preparation in Human Development and Applied Psychology/*D. Keating, K. E. Stanovich*
HDP 3229H Cognition and Emotion in Development/*M. Lewis, Staff*
HDP 3230H Understanding Narrative/ *K. Oatley, Staff*
HDP 3231H Psychodynamic Bases of Therapy/*Staff*
HDP 3237H Recent Advances in Cognitive Development in Education/*M. Lewis, Staff*
HDP 3238H Special Topics in Human Development and Applied Psychology/*Staff*
HDP 3240H Advanced Social and Emotional Assessment Techniques/*Staff*

HDP 3241H Seminar and Practicum in Assessment and Intervention with Children/*Staff*
HDP 3252H Individual Reading and Research in Human Development and Applied Psychology: Doctoral Level/*Staff*
HDP 3255H Systemic Family Therapy/ *J. Jenkins, Staff*
HDP 3282H The Psychology of Critical Thinking/*K. E. Stanovich, Staff*
HDP 3286H Developmental Neuropsychology/ *Staff*
HDP 3287H Cognitive Science Applied to Exceptional Learners/*P. Lindsay*
HDP 3292H Advanced Psychoeducational Assessment and Psychodiagnosis/*J. Wiener, Staff*
HDP 3297H Biological and Psychological Foundations of Low Incidence Disorders/*J. Ducharme*
HDP 5271Y Assessment and Programming for Reading and Writing Difficulties/*D. M. Willows, Staff*
HDP 5280H Advanced Research Planning in Human Development and Applied Psychology/*E. Geva, K. E. Stanovich*
HDP 5281H Research and Theories of Reading Disability/*K. E. Stanovich*
HDP 5284H Assessment and Intervention in Multicultural/Bilingual Contexts/ *E. Geva*
HDP 5298H Special Topics in Adaptive Instruction and Special Education: Doctoral Level/*Staff*
HDP 7002H Ethical, Legal and Professional Issues in Education
HDP 7004Y Practicum in School
HDP 7005H Practicum Internship
JPX 1001H Parenting: Multidisciplinary Perspectives/*C. M. Corter (Coordinator)*

***Individual Reading and Research Courses***

HDP 2252H Individual Reading and Research in Human Development and Applied Psychology: Master's Level
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
HDP 5295H Individual Reading and Research in Adaptive Instruction and Special Education: Doctoral Level

# Human Development, Life Course and Aging

## Graduate Faculty

### Full Members

R. Abramovitch, BA, MA, PhD
K. R. Allison, BSc, BPHE, MASc, MSc, PhD
D. M. Behrens, HBA, MS, PhD
D. H. Brownfield, PhD
A. S. Chambon, BA, MA, BSW, PhD
R. W. Cockerill, BA, MA, PhD
A. Colantonio, BA, BSc, MHSc, PhD
C. M. Corter, BA, PhD
C. A. Cott, Dip(PT), BPT, DipGer, MSc, PhD
K. K. Dion, BA, PhD
B. H. Erickson, BA, MA, PhD
G. R. Fernie, BSc, PhD, PEng, CCE
E. Fuller-Thomson, BA, BSW, MSW, PhD
A. R. Gillis, BA, MA, PhD
J. Globerman, BSW, MHSc, MSc, PhD, CSW
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J. E. Grusec, BA, PhD
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P. L. McDonald, BA, MSW, PhD
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S. Neysmith, BSc, MSW, DSW
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S. Ruddick, BES, MA, PhD, MCIP
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A. M. Sorenson, BA, MA, PhD
P. A. Square, BSc, MA, PhD
D. T. Stuss, BA, BPh, MA, PhD
S. G. Thomas, BSc, MSc, PhD
A. Verma, BTech, MBA, PhD
R. Volpe, BA, MA, PhD
B. Wellman, BA, MA, PhD
D. L. Wells, BA, MHSc, PhD
L. M. Wells, BA, BSW, MSW, DASW, CSW
S. Welsh, BA, MA, PhD
B. Wheaton, BA, MA, PhD
***(Director)***

### Members Emeriti

D. M. Craig, BA, BScN, MScN
M. J. Kelner, BA, MA, PhD
M. Krondl, BSc, PhD
V. W. Marshall, BA, MA, PhD
B. Schlesinger, MSW, PhD
H. J. Segal, BScPhm, MS, PhD
B. T. Wigdor, BA, PhD

### Associate Members

P. Ballantyne, BA, MA, PhD
M. Gignac, BSc, MA, PhD
H. M. R. Meier, MB, ChB, MSc, FRCPsych, FRCPC
M. Tierney, BA, MA, PhD

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The Institute has two principal mandates: multidisciplinary research and post-graduate education.

### Research

The primary mandate of the Institute is to conduct basic, multidisciplinary research from a social science perspective on human development, the life course, and aging. The Institute offers graduate students and faculty the opportunity to work in a collaborative environment that fosters research and education. It acts as a catalyst to bring together researchers from various sectors of the University and collaborates with teaching hospitals, government, and social agencies. It offers resources, services, and leadership on research, planning, and policy issues. The research program of the Institute covers several theme areas:

**1** aging and the life course,
**2** life course theory and methodology
**3** work and family and the life course
**4** health and the life course
**5** crime and law and the life course
**6** learning and human development and the life course

**Education**

First of all, the Institute offers a collaborative graduate program in Aging and the Life Course. Graduate students register in participating home departments and acquire a subspecialty in aging, denoted on their transcript. For more details consult the Aging and the Life Course (Collaborative Program) entry in this calendar. Four research fellowships are awarded annually to further support students in the area of aging and the life course:

**a** The Wilfred George Scott Fellowship in Gerontology;

**b** The Helen and George Coward Award in Gerontology;

**c** The Leon and Blossom Wigdor Scholarship Fund;

**d** The Northwater Capital Management Award in Aging.

At this time, the Institute is developing programs and initiatives with a focus on the analysis of longitudinal and life history data. Currently, a graduate level course addressing techniques in the analysis of longitudinal and temporal data is being offered on site, with access to well-known longitudinal databases.

Next, the Institute offers seminars, workshops, and conferences. Current seminar series themes include aging and the life course issues as well as longitudinal methodology issues.

The Institute offers space and a small resource centre to graduate students and lab space for in-house research faculty members. It also houses two community groups, the Ontario Network for the Prevention of Elder Abuse (ONPEA) and Connecting Seniors of Canada (CSC). Anyone interested in research studies on human development, life course, and aging should contact the Institute for information.

# Immunology IMM

## Graduate Faculty

### Full Members

S. Berger, BSc, MSc, PhD
N. L. Berinstein, MD, FRCP(C)
J. W. Chamberlain, BSc, MSc, PhD
A. Cohen, BSc, MSc, PhD
J. S. Danska, AB, PhD
H.M. Dosch, BSc, MD
E. N. Fish, BSc, MPhil, PhD
R. M. Gorczynski, BA, BSc, MD, PhD
C. J. Guidos, BSc, PhD
J. B. Hay, BSc, MSc, PhD
R. D. Inman, BA, MD, FRCP
N. N. Iscove, MD, PhD
D. E. Isenman, BSc, PhD
J. Jongstra, MSc, PhD
M. H. Julius, BSc, PhD
D. Kelvin
M. Letarte, BSc, PhD
G. A. Levy, BSc, MD, FRCP, FRCP(C)
S. Lewis, BSc, PhD
K. MacDonald, MD, FRCP(C)
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R. G. Miller, BSc, MSc, PhD, FRSC
P. S. Ohashi, BSc, PhD
C. A. Ottaway, BSc, MSc, MD, PhD, FRCP
C. J. Paige, BSc, PhD, The Ronald N. Buick Chair in Cancer Research
R. H. Painter, BSc, PhD
J. M. Penninger, MD, PhD, Canada Research Chair
P. Poussier, MD
M. Ratcliffe, BSc, PhD
***(Chair)***
J. C. Roder, BA, PhD
C. Roifman, MD, FRCP
R. Rottapel, BA, MA, MD
L. A. Rubin, MD, FRCP
A. C. Schuh, BSc, MD, FRCP(C)
M. J. Shulman, AB, PhD
***(Coordinator of Graduate Studies)***
E. D. Silverman, MD, FRCP
K. A. Siminovitch, MD, FRCP(C)
F. W. L. Tsui, BSc, MSc, PhD
T. H. Watts, BSc, PhD
D. B. Williams, BSc, MSc, PhD
G. E. Wu, BSc, MSc, PhD
J. C. Zuniga-Pflucker, BSc, PhD

### Associate Members

J. M. Boggs, BA, MSc, PhD
P. J. Doherty, BSc, PhD
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E. C. Keystone, BSc, MD, FRCP(C)
J. Wither, BSc, MD, PhD, FRCP

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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 an opportunity for study towards an M.Sc. or a Ph.D. degree 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 at the Web site listed above.

### Degree of Master of Science

Applicants with a four-year B.Sc., or its equivalent, will be considered. Candidates are normally expected to have at least a B+ average with a strong background in molecular and cellular biology. Applicants from outside North America are required to provide GRE (general) scores with their application. Candidates lacking adequate training in biological or natural sciences may be advised to do extra course work necessary for their research.

To qualify for an M.Sc. degree, candidates must complete IMM 1016H, IMM 1019H° and IMM 2021H°, submit a satisfactory thesis embodying their research, and pass an oral examination based on their research.

°Courses which may continue over a program. The course is graded when completed.

**Degree of Doctor of Philosophy**
There are three routes to the Ph.D. degree:
**1** Candidates may be accepted for direct entry into the Ph.D. with a B.Sc. degree, or equivalent, with at least an A- average in their final year.
**2** Candidates may be accepted first into the M.Sc. 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 Ph.D. program.
**3** Candidates already holding an M.Sc. with at least a B+ average may be accepted directly into the Ph.D. program.

Candidates are required to be on campus and participating full-time until the program requirements of research and course work have been completed. The program emphasizes research. In addition, the program requirements include completion of IMM 1016H, IMM 1017H, IMM 1100H°, IMM 2100H°, and one additional half-course equivalent from either Immunology or outside the Department in a subject relevant to the thesis topic. All candidates are examined in the second year of their program on a submitted research proposal and on relevant course material. To qualify for a Ph.D. degree, the candidate must submit a thesis and defend it at an oral examination conducted by the School of Graduate Studies.

**Courses of Instruction**
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 1019H° | Master's Seminar Course (CR/NCR) |
| IMM 1020H | Recent Advances in Clinical Immunology (Spring) |
| IMM 1100H° | Doctoral Seminar Course (CR/NCR) |
| IMM 1430H | Advanced Immunobiology (Spring) |
| IMM 2021H° | Special Topics in Immunology I (CR/NCR) |
| IMM 2100H° | Special Topics in Immunology II (CR/NCR) |
| JBI 1428H | Molecular Immunology (Fall) |
| JPI 1014H | Immunopathology (Spring) |

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

# Industrial Relations IRE

## GraduateFaculty

### Full Members

J. H. Amernic, BSc, MBA, FCA
D. M. Beatty, BA, LLB, LLM, Albert Abel Professor of Law
D. K. Foot, BA, AM, PhD
M. H. Gunderson, BA, MA, PhD, CIBC Professor of Youth Employment
***(Ph.D. Coordinator)***
H. P. Gunz, BSc, DPhil, PhD
D. L. Holness, MHSc, MD
D. E. Hyatt, BA, MA, PhD
J. B. Kervin, BA, PhD
M. Krashinsky, SB, MPhil, PhD
B. A. Langille, BA, LLB, BCL
G. P. Latham, BA, MS, PhD, FRSC
E. S. Lightman, BA, MA, PhD
L. S. MacDowell, BA, MSc, PhD
M. P. Macklem, BA, LLB, LLM
D. A. Ondrack, BCom, MBA, PhD
J. J. Quarter, BA, MA, PhD
F. J. Reid, BA, MSc, PhD
***(Director)***
J. G. Reitz, BS, PhD, FRSC, Robert F. Harney Professor of Ethnic Immigration and Pluralism Studies
J. Tanner, BSc, MA, PhD
A. Verma, BTech, MBA, PhD
***(Coordinator of Graduate Studies)***
S. Welsh, BA, MA, PhD
G. Whyte, LLB, MBA, MPhil, MA, PhD
J. L. Xie, BA, MBA, PhD

### Members Emeriti

J. H. G. Crispo, BCom, PhD
M. G. Evans, BSc, MScTech, MIA, PhD
H. F. Kolodny, BEng, MBA, DBA, PEng

### Associate Members

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Additional information is provided on the Centre's Web site.

### Degree of Master of Industrial Relations

The purpose of the graduate program leading to the degree of Master of Industrial Relations (M.I.R.) is to enable students to undertake specialized study which focuses on the employment relationship and examines it from the point of view of a number of disciplines such as economics, law, psychology, and sociology. This focus also includes the nature and relationships of the institutions involved in the employment relationship. The intention is to provide students with the background framework and current knowledge of the field that will serve as a basis for professional careers in labour-management relations, human resources, or policy analysis.

The M.I.R. degree may be taken on a full-time or part-time basis. If it is taken full-time, the course of study may range from one academic year (eight months) to two academic years (sixteen non-consecutive months) depending upon a student's undergraduate program of study. Advanced standing can be obtained for relevant courses taken previously.

#### *AdmissionRequirements*

**1** The minimum admission requirement is a grade average of B+ (77%) in each of the final two years of a University of Toronto bachelor's degree program, or equivalent. Applicants with a three-year bachelor's degree equal to the University of Toronto degree, preferably in a related field of study, will also be considered for admission.
**2** Students are strongly advised to take introductory economics and statistics courses prior to application. Performance in these courses, as well as performance in other industrial relations and related courses, will be taken into consideration by the admissions committee.
**3** Enrolment in the program is limited and meeting minimum requirements does not guarantee admission. All applicants will be evaluated on their individual merits.

**4** International students are strongly advised to submit results from the Graduate Record Examination (GRE). The Graduate Management Admissions 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. Scores must be received no later than April 15. Test results more than five years old are normally not considered.
**5** Candidates whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must have a TOEFL score of at least 600 and a TWE score of 5 or higher. For the computer-based TOEFL test, the minimum required score is 250 with an Essay Rating score of 5.
**6** Persons now working in the fields of industrial relations or human resources who are considering a return to university will have their experience taken into consideration by the admissions committee.
**7** Candidates who have completed at least a four-year degree may be granted advanced standing for courses equivalent to those in the first year of the M.I.R. program. Such courses must have been completed with at least a mid-B standing.

***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. Optional courses must be chosen from at least two of the three areas of study.

Not all courses are offered every year. Please consult the Centre for Industrial Relations timetable which lists available courses in each session.

*First Year*
The program consists of two years of study, although advanced standing is possible for first-year courses. The first year is designed to provide the basic background requirements. It includes an introduction to the three main areas of study:
**1** Human Resource Management and Organizational Behaviour
**2** Labour-Management Relations
**3** Labour Market and Social Policy
It also includes relevant courses in economics, quantitative methods, organizational behaviour, and sociology.

Students must take ten half-courses, or the equivalent, of which seven are required courses, as follows:

IRE 1002H Applied Statistics in Industrial Relations
Students who enrol in IRE 1002H may not enrol in CRI 2020H *Applied Statistics in Criminology*
IRE 1010H Microeconomic Environment for Industrial Relations
IRE 1011H Macroeconomic Environment for Industrial Relations
IRE 1126H Labour Market Policy
Microeconomics is a prerequisite. This course may be postponed until second year if the student wishes.
IRE 1611H Sociology of Industrial Relations
MGT 1362H Administrative Theory
MGT 2610H Industrial Relations

Courses are chosen from the list of optional courses below to fill the requisite ten half-year courses, or their equivalent, in the first year of the program. Although not required, almost all students choose a course in labour law (IRE 1263Y or IRE 1338H) as one of their optional courses.

Students in the M.I.R. program are required to achieve a mid-B average in the first year of the program (or in the first ten half-courses, excluding grades for exempted courses) in order to continue or to pass into the second year. Failure in any course (that is, a grade of less than B-) will require a review of the student's program by the department.

*Second Year*
Students must take eight half-courses, or the equivalent, to complete the second year. This includes core courses in Industrial Relations:

IRE 2001H Industrial Relations Theory I
IRE 2002Y Research Methods in Industrial Relations

Five additional half-courses must be chosen from the list of optional courses.

All requirements for the degree must be completed within six years from the date of first enrolment in the M.I.R. program. Students must have a mid-B average overall to be recommended for the degree.

## Degree of Doctor of Philosophy

The Ph.D. in Industrial Relations is a research-oriented program of study designed to provide students with both a thorough background in the field of industrial relations and research skills to enable them to proceed to careers in academic institutions or in research positions with governments or major organizations. It 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.

### *Admission Requirements*

**1** Candidates will be admitted under the general regulations of the School of Graduate Studies and will require a Master of Industrial Relations (M.I.R.) 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 M.I.R. program. Students with a bachelor's degree in industrial relations or in a related field of study, may be considered for admission to the Ph.D. if they have exceptional academic standing and have demonstrated quantitative skills and research ability.

**2** At least a B+ standing, or equivalent, will be 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, will be taken into consideration by the admissions committee.

**3** Candidates are required to submit a copy of their results from the Graduate Record Examination (GRE) before February 1. The Graduate Management Admissions 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.

**4** Candidates whose primary language is not English and who graduated form a university where the language of instruction and examination was not English must have a TOEFL score of at least 600 and a TWE score of 5 or higher. For the computer-based TOEFL test, the minimum required score is 250 with an Essay Rating score of 5.

**5** 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 core courses in Industrial Relations, optional courses, and courses in research methods and statistics.

The core requirement in Industrial Relations is met by completing one half-course:

IRE 3004H Topics in Industrial Relations and Human Resources

The research and statistics requirements are met by completing:

IRE 3002Y Research Seminar I
IRE 3003Y Research Seminar II
Prerequisite: IRE 3002Y

and two half-year courses in statistics, chosen, with the approval of the Ph.D. 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 Ph.D. Coordinator.

Two half-year optional courses are chosen from the courses set out below, or from selected offerings in other departments and faculties.

Not all courses are offered every year. Please consult the Centre for Industrial Relations timetable which lists available courses in each session.

A comprehensive examination is written under regulations of the Centre for Industrial Relations normally 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 Ph.D. program. The thesis topic and name of supervisor must be submitted no later than October 15.

Students who are in their third and fourth years of study must enrol in the following courses:

IRE 3005H Workshop in Industrial Relations I (CR/NCR)
IRE 3006H Workshop in Industrial Relations II (CR/NCR)

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.

All requirements for the degree must be completed within six years from the date of first enrolment in the Ph.D. program.

(CR/NCR) Credit/No Credit

**Collaborative Programs**
The Centre for Industrial Relations participates in the Ethnic and Pluralism Studies Collaborative Program. Consult the separate entry in this calendar for details.

**Optional Courses**
The courses listed below are for general information only. Some courses may be available only during the day.

The Centre offers key required and optional courses in Industrial Relations. 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.

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 Industrial Relations for current information.

Some courses are offered only in alternate years, and the availability of optional courses may be subject to change due to such factors as faculty research leaves and departmental resources. For those courses which also have undergraduate numbers, students are reminded that although the lecture content remains the same, graduate students are required to do additional course work. Further details concerning specific courses and brief course descriptions are available on the Centre's Web site.

***Area 1 Human Resource Management and Organizational Behaviour***

IRE 3615H Creating High Performance Reward Systems
IRE 3620H Topics in Compensation
IRE 3625H Human Resource Research and Information Systems
IRE 3630H Diversity and Inclusiveness in the Workplace
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
CHL 5108H Work and Well-Being
HAD 5711H Theory and Practice of Strategic Planning and Management in Health Services Organizations
HAD 5769H Human Resources Management in the Health Field
MGT 2601H Organization Design
(May require an organizational behaviour course as a prerequisite)
MGT 2604H Organization Change and Development
(May require an organizational behaviour course as a prerequisite)
MGT 2605H International Organizational Behaviour
(May require an organizational behaviour course as a prerequisite)
MGT 2606H Designing New Work Organizations
MGT 2608H Management of the Personnel Function
MGT 2609H Management of Human Resources
MGT 2615H Special Topics in Organizational Behaviour
SOC 6012H Sociology of Work I
SOC 6112H Sociology of Work II
SWK 4650H Social Work Practice with Groups in the Community and in Organizations
TPS 3040H Administrative Theory and Educational Problems I: People and Power in Organizations

***Area 2 Labour-Management Relations***

IRE 1207H Equality in Employment (also LAW 207H)
IRE 1219H Public Sector Labour Relations (also LAW 219H)
(May require labour law as a prerequisite)
IRE 1260H Seminar on Labour Arbitration (also LAW 260H)
(May require labour law as a prerequisite)
IRE 1263Y Labour Law (also LAW 263H)
(Students may enrol in either IRE 1263Y or IRE 1338H, but not both)
IRE 1270H Introduction to the Law of Labour Relations
IRE 1313H Canadian Labour History I
IRE 1314H Canadian Labour History II
IRE 1338H Law in the Workplace
(Students may enrol in either IRE 1263Y or IRE 1338H, but not both)
IRE 1373H Labour Policy
IRE 1615H Comparative Industrial Relations
IRE 1620H Labour Relations Problems in Historical Perspective
IRE 1625H Contemporary Issues in Public Sector Labour-Management Relations
IRE 1635H The Process of Negotiation and Alternative Dispute Resolution
IRE 1640H Contemporary Trade Unionism: Issues, Challenges, Strategy

IRE 2021H Accounting Information and Industrial Relations
CHL 5904H Perspectives in Occupational Health and Safety—Legal and Social Context
JPJ 2226H Theory of Negotiation
MGT 2607H Managerial Negotiations

***Area 3 Labour Market and Social Policy***

AEC 1137H Evaluation of Adult Education Programs
CTL 2808H Intermediate Statistics and Research Design
ECO 2800H Labour Economics I
ECO 2801H Labour Economics II
ECO 2807H Economics and Demographics
May require a statistics or economics course as a prerequisite
MGT 2129H Forecasting Models and Econometric Methods
May require a statistics or economics course as a prerequisite
MGT 2804H Multivariate Methods for Management
May require a statistics or economics course as a prerequisite
POL 2307H The Political Economy of Technology: From the Auto-Industrial to the Information Age
SES 1903H Sociological Survey Research Methods in Education
SOC 6021Y Sociology and the Policy Process in Canada
SOC 6302H Statistics for Sociologists
SWK 4403H Women and Social Policy in Canada
SWK 4662H Principles of Social Policy Analysis

**Other Optional Courses**

With the approval of the Graduate Coordinator, students may register in the following credit/non-credit courses:

IRE 1001H Computer Skills in IR/HRM (CR/NCR)
IRE 4000H Coop in Employment Relations (CR/NCR)

**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

# Information Studies FIS

## Graduate Faculty

### Full Members

E. Auster, AB, SM, BEd, MEd, EdD
C. L. Beghtol, BA, MLS, PhD
J. M. Cherry, BSc, MLS, PhD
C. W. Choo, BA, MA, MSc, DipBusAdmin, DipComputerSci, PhD
A. Clement, BSc, MSc, PhD
B. H. Craig, BA, MA, PhD
M. Danesi, BA, MA, PhD, FRSC
D. de Kerckhove, BA, MA, PhD, Dip 3ème Cycle, FRSC
P. L. Fleming, BA, BLS, MLS, MA, PhD, FRSC
F. Guardiani, DLett, MA, PhD
L. C. Howarth, BA, MLS, PhD ***(Chair)***
R. K. Logan, BSc, PhD
J. L. Teather, BA, MA, PhD
B. Wellman, BA, MA, PhD
I. E. Wilson, BA, MA
E. S. K. Yu, BSc, MMath, PhD

### Members Emeriti

A. M. Fasick, BA, MA, PhD
F. G. Halpenny, BA, MA, LLD, DLitt, FRSC
R. B. Land, BA, MA, BLS, MLS
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J. P. Wilkinson, BA, BLS, MLS, PhD
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### Associate Members

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The Faculty of Information Studies (FIS) offers degree programs which are administered under the general regulations. These programs are the Master of Information Studies (M.I.St.) and the Doctor of Philosophy (Ph.D.).

The Faculty's application deadlines may differ from the general deadlines given in this calendar. Program details are available on the Faculty of Information Studies Web site at www.fis.utoronto.ca. The Faculty cannot guarantee admission of all applicants who meet its minimum requirements.

The McLuhan Program joined the Faculty of Information Studies in 1994 as a distinct research and teaching unit. More information about the Program follows the description of the Information Studies degree programs and courses of instruction listed below.

### Facility in the English Language

All incoming graduate students must 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 and who graduated from a university where the language of instruction and examination was not English. This requirement is a condition of admission and should be met at the time of application.

This requirement may be satisfied using one of the following tests:

**1** Test of English as a Foreign Language (TOEFL)
The TOEFL must be accompanied by a Test of Written English (TWE). A minimum TOEFL score of 600 is required for the paper-based test and 250 on the computer-based test. A score of 6.0 is required on the TWE.

**2** Michigan English Language Assessment Battery (MELAB)
A minimum score of 95 is required.

**3** International English Language Testing System (IELTS)
A minimum score of 8.0 is required.

If an applicant has previously completed a program of study at a university where the language of instruction and examination has

been largely in English, a statement by one of the applicant's university professors, sent directly to FIS from the university concerned, may be accepted as evidence of facility in English.

Admission decisions will not be made by FIS until test results are received.

**Degree of Master of Information Studies**

The Faculty offers a program of two academic years leading to the Master of Information Studies degree. It is available on either a full-time or a part-time basis. The M.I.St. degree program offers three specializations: library and information studies, archival studies, and information systems.

***Admission Requirements***

Students are admitted under the general regulations. Application deadlines are available on the Faculty of Information Studies Web site. An overall average of at least B, with a mid-B in the final year of a four-year bachelor's program, is required for admission to the M.I.St. program. Applicants who hold three-year degrees must have an overall B+ average. Applicants wishing to take the information systems specialization must also have completed the equivalent of two approved full-year courses in computer science and one approved full-year course in mathematics.

Applicants who meet current admission requirements and who hold a B.L.S. degree from the University of Toronto, or its equivalent from an approved university, may be admitted to the M.I.St. program with advanced standing. Such students may be required to take additional courses if they lack certain requisite instruction.

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 M.I.St. program may also apply for admission with advanced standing. Each application will be evaluated individually. At least eight half-courses towards the M.I.St. degree must be taken at the University of Toronto.

***Program Requirements***

Computer Literacy

The Faculty expects students to be competent in their use of information technologies. Details are available in the Faculty's calendar.

Course Option

The M.I.St. program consists of 16 half-courses or the equivalent. All students, regardless of specialization, will take the same three core courses. In addition, students must complete the four required courses in their area of specialization and four electives at the 2000-level. The remaining courses may be chosen at the student's discretion.

Thesis Option

*At press time, the M.I.St. Thesis Option was pending final approval. Please contact the Faculty for details.*

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. The thesis is equivalent to four elective half-courses. Faculty approval is required. This 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 M.I.St.

***Time Limit for Completion***

All requirements for the M.I.St. degree must be completed satisfactorily within six years from first enrolment in the program. Total time from original registration, including lapsed time, is counted as the time allowed to complete the requirements for the degree.

In exceptional circumstances, a candidate who has failed to complete all the requirements for the degree within the appropriate period may be considered for a deadline extension, following the procedures established by the School of Graduate Studies.

**Degree of Doctor of Philosophy**

Doctoral study in the field of information studies is concerned with both theoretical and applied scholarship. The discipline has its own area of human experience to analyze, its own body of descriptive and factual data to gather, and its own conceptual schemes to formulate and test. The objective of the Ph.D. program is to prepare graduates to assume leadership roles in information and knowledge-based environments. The program is designed to provide opportunities for advanced scholarly research in the theoretical bases of information studies and in the application of such knowledge to professional practice in various functions (e.g., research, systems analysis and design, administration) in private and public institutions (e.g., higher education, government, libraries, archives, corporations).

The goals are:
**1** to produce in Canada highly qualified graduates for careers in research and teaching;
**2** to contribute to the development of theory in the field of information studies and to the body of knowledge on which theory and practice are based, both through original and scholarly dissertations and faculty research;
**3** to stimulate a scholarly interest in research within the information community in Ontario and throughout Canada.

### *Admission Requirements*

Admission to the Ph.D. program requires an average of at least B+ in a four-year UofT bachelor's degree program, or its equivalent, and an average of at least B+ in a UofT master's degree program, or its equivalent. Equivalency is normally determined by the number of courses and/or credits taken. Applicants holding an M.L.S. or other master's degree earned in 2 or 3 semesters, or by completing 10 to 15 half-courses, will normally be required to take additional courses in the M.I.St. 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 applicant may be required to take make-up courses to obtain this support.

Admission to the Ph.D. program is limited to graduates of high intellectual ability who have an interest in research. Evaluation of applicants will be 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 this 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.

### *Degree Requirements*

Since Ph.D. 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 Doctoral Studies Committee and by SGS.

Students are required to complete:
**1** a major subject, FIS 3004Y *Advanced Topics in Information Studies*,
**2** a minor subject,
**3** FIS 3005Y *Advanced Seminar in Research Methodologies*,
**4** a Determination of Research Readiness (written and oral),
**5** a thesis proposal,
**6** a thesis,
**7** a final oral examination.
Students are expected to participate in the Colloquium Series of the Faculty and in other research events. Other courses appropriate for the student's research may also be required.

The second phase of a student's program is concerned with the choice and development of the thesis topic and research for the thesis.

### *Time Limit for Completion*

Full-time Program
Full-time Ph.D. students must complete all degree requirements within four years of first enrolment in the program. Ph.D. students must be regularly registered in SGS during each year of the program.

Flexible-time Program
The flexible-time Ph.D. program is intended for practicing professionals whose employment is related to their intended field of research interest. The flexible-time Ph.D. differs from the full-time Ph.D. 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 must be completed within six years of first enrolment in the program. Fees arrangements for flexible-time Ph.D. programs apply.

### *Colloquium Series*

The departmental Colloquium Series serves as a forum for special speakers, for the reporting of faculty research, and for the presentation of thesis research by doctoral students. All doctoral students in residence are strongly urged to attend and participate.

### *Major Subject*

The major subject consists of one full course. It sets the context for the thesis and provides the means by which the student's knowledge of the subject, its major works, and its research literature is intensified.

***Minor Subject***
The minor subject consists of one full course or two half-courses, normally selected from appropriate graduate courses.

***Determination of Research Readiness***
After completing the requirements of the Major and Minor, and before developing a proposal for dissertation research, a candidate must appear before a committee which will determine the candidate's readiness to undertake research. This takes the form of an oral and written presentation and should display a candidate's critical ability and mastery of the research focus.

***Prerequisite and Co-requisite Courses***
Students may be required to take additional prerequisite and/or co-requisite courses as part of their program.

***Thesis***
The student is required to demonstrate the ability to design and conduct independent research by submitting and defending a thesis which constitutes a significant contribution to knowledge in the field of information studies. The thesis must embody the results of original investigation conducted by the student on an approved topic from the major subject area. The thesis is normally written in English but, on petition, French may be permitted.

Each student has a supervisor and two or more advisors for the thesis. The advisors may include members of the graduate faculty of other SGS departments.

***Ph.D. Oral Examination***
The candidate must defend the thesis at a Ph.D. oral examination normally scheduled by SGS in consultation with FIS.

**Collaborative Programs**
FIS participates in six collaborative programs:
Addiction Studies
Aging and the Life Course
Book History and Print Culture
Environmental Studies
Knowledge Media Design
Women's Studies

Collaborative programs provide an opportunity for FIS students to pursue a specialized subject interest as part of their M.I.St. or Ph.D. degree. The SGS calendar includes a separate entry for each collaborative program. Please see the relevant entry for collaborative program 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 Ph.D. program are not open to Special Students.

**Courses of Instruction**
Not all courses are offered every year. Consult the Faculty of Information Studies Web site for courses offered each year. Course descriptions and details of prerequisites, co-requisites, and permissions are printed in the *Faculty Calendar* located 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.

**M.I.St. Core Courses**
Core courses must be taken by students in all three specializations.

| | |
|---|---|
| FIS 1210H | Information and Its Social Contexts |
| FIS 1230H | Management of Information Organizations |
| FIS 1240H | Research Methods |

**M.I.St. Required Courses**
Required courses may also be taken as elective courses by students in all three specializations, providing the necessary prerequisites have been met.

***Library and Information Science***

| | |
|---|---|
| FIS 1310H | Information Resources and Services |
| FIS 1311H | Information Technology Applications |
| FIS 1320H | Introduction to Bibliographic Control |
| FIS 1325H | Online Information Retrieval |

***Archives***

| | |
|---|---|
| FIS 1311H | Information Technology Applications |
| FIS 1330H | Archives Concepts and Issues |
| FIS 1331H | Archival Arrangement and Description |
| FIS 1332H | Archives Programs and Services |

***Information Systems***

| | |
|---|---|
| FIS 1340H | Introduction to Information Systems |
| FIS 1341H | Analyzing Information Systems |

FIS 1342H Designing Information Systems
FIS 1343H Database Design

**M.I.St. Elective Courses**

FIS 2010H Reading Course
FIS 2011H Reading Course
FIS 2030Y Research Project
FIS 2050H Advanced Research Methods
FIS 2103H Current Issues in Librarianship-3
FIS 2104H Current Issues in Librarianship-4
FIS 2105H Current Issues in Librarianship-5
FIS 2106H Current Issues in Librarianship-6
FIS 2107H Current Issues in Librarianship-7
FIS 2109H Current Issues in Librarianship-9
FIS 2112H Current Issues in Librarianship-12
FIS 2120H Conservation and Preservation of Recorded Information
FIS 2121H Specialized Archives
FIS 2122H The Public Library in a Diverse Community
FIS 2125H Information and Culture in a Global Context
FIS 2127H Collection Development and Evaluation
FIS 2128H Management and Use of Collections
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 Information Resources for Children I
FIS 2140H Information Resources for Children II
FIS 2142H Theories of Classification and Knowledge Organization
FIS 2144H Subject Approach to Information
FIS 2145H Creation and Organization of Bibliographic Records
FIS 2147H Computing Methods in Information Science
FIS 2149H Administrative Decision Making in Information Organizations
FIS 2150H Advanced Management of Information Organizations
FIS 2151H Human Resources Management in Libraries
FIS 2153H Technical Services: Organization and Administration
FIS 2154H Reference Services: Organization and Administration
FIS 2155H Records Management
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 2168H Information Retrieval Systems
FIS 2169H User-Centred Information Systems Development
FIS 2171H Major Subject Heading and Classification Systems
FIS 2172H Reference and Reader's Advisory Resources
FIS 2173H Archives and Records Management Practicum
FIS 2174H History of Records and Records-Keeping
FIS 2175H Electronic Records Management
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

**Ph.D. Courses**

FIS 3004Y Advanced Topics in Information Studies
FIS 3005Y Advanced Seminar in Research Methodologies

## McLuhan Program in Culture and Technology

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The McLuhan Program in Culture and Technology was created to continue the legacy of the Centre for Culture and Technology, established in 1963, as a focus for the ground-breaking work of Marshall McLuhan. The Program's mandate is to encourage understanding of the impacts of technology on culture and society from theoretical and practical perspectives. The Program draws together members of the University community whose interests lie in the interdisciplinary study of communications, culture, and technology. Through its research, course offerings, publications, speaking engagements, and experimentation in new and old media, the Program also provides a bridge between the University and government, industry, educators, artists, and the general public.

In the summer of 1994, the McLuhan Program joined the Faculty of Information Studies as a distinct research and teaching unit. From its base at the historic Coach House on the east St. George campus, the McLuhan Program engages in four converging lines of activity:

**1** To encourage and extend the investigations of the Toronto School of Communications initiated by Harold Innis, Eric Havelock, Marshall McLuhan and others into the impact of technology on culture, with a special emphasis on communications and information media and technologies;

**2** To provide a forum for the exchange of ideas between the University and other groups within society, particularly those who have a central concern with the development, design, and consequences of technologically-mediated communications;

**3** To offer a range of graduate credit courses and continual learning non-credit seminars and courses;

**4** To engage in activities outside the University consistent with the Program mandate.

The McLuhan Program 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.

### Courses of Instruction

JAC 1001H Media, Mind, and Society I/*D. de Kerckhove*
JAC 1002H Media, Mind, and Society II/*Staff*
C&T 1003H Comparative Literacy/*Staff*
C&T 1004H Communications: History/Theory/Technology/*L. Jeffrey*
C&T 1005H Understanding McLuhan/*E. McLuhan, F. Zingrone*
C&T 1007H Perspective and Design in the Twentieth Century/*Staff*
C&T 1009H New Media and Policy/*L. Jeffrey*

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.

# Integrated Manufacturing (Collaborative Program)

**Program Committee**

B. Benhabib, BSc, MSc, PhD/Mechanical & Industrial Engineering ***(Director)***
O. Berman, BA, SM, PhD/Management
M. T. Kortschot, BASc, MASc, PhD/Chemical Engineering & Applied Chemistry
J. D. Lavers, BSc, MASc, PhD/Electrical and Computer Engineering
L. Shu, BSc, MSc, PhD/Mechanical & Industrial Engineering
S. Thorpe, BASc, MASc, PhD/Materials Science & Engineering

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The Integrated Manufacturing Collaborative Program provides students with a broad understanding of manufacturing issues, concepts and techniques, and their integration and application. Topics of interest include engineering design, materials in manufacturing, production processes, production planning and control, quality-control systems, computer-integrated manufacturing, and manufacturing management and strategy.

Primary participants in this multidisciplinary collaborative program are departments in the Faculty of Applied Science and Engineering: Chemical Engineering and Applied Chemistry, Materials Science and Engineering, Mechanical and Industrial Engineering as well as the Faculty of Management's Operations Management Group.

The Integrated Manufacturing Collaborative Program is only open to full-time students registered in the M.Eng. degree program in any one of the collaborating Engineering Departments. Participating students are expected to complete the degree requirements within a one-year period: September to August—no students are admitted in January.

**Admission Requirements**

The Integrated Manufacturing Collaborative Program is only open to full-time students who have a four-year bachelor's degree in any one of the following engineering disciplines: Chemical, Electrical, Industrial, Materials Science, or Mechanical Engineering.

Applicants are required first to register in one of the participating Engineering Departments (listed above) and then request admission to the collaborative program.

Students must complete the M.Eng. degree requirements of both the collaborating department and the Integrated Manufacturing Collaborative Program. Students are strongly advised to consult their respective graduate departments about the exact degree requirements prior to admission into the collaborative program. Students who complete the program receive the M.Eng. degree in their respective home department and the following notation on their transcripts: "Completed the Integrated Manufacturing Collaborative Program".

**Program Requirements**

Students are required to complete seven half-courses and a four-month industrial project worth three half-courses, for a total of ten half-courses. Students must successfully complete their course requirements within the first eight months (September to April) and a full-time summer project (May to August) at a sponsoring industrial corporation in teams of two students.

The Collaborative Program director arranges opportunities for students to find summer projects with sponsoring corporations. A personal interview is required. In order to avoid any potential conflict of interest, students must not be working, in any way, for an industrial company other than the specific corporation sponsoring their own project during the summer period.

In the event that an industrial project cannot be secured, and with the written approval of the Director, the student must personally seek a summer project to be conducted at the University of Toronto in any one of the collaborating departments.

**Courses of Instruction**

In addition to the industrial summer project worth three half-courses, students must receive credit for seven half-courses, when possible, within the first eight months of registration in the collaborative program (i.e., September to April):

***Four collaborative program core courses:***

| | |
|---|---|
| MGT2406H | Operations Management Strategy |
| MGT2800H | Management Science |
| MIE1718H | Computer Integrated Manufacturing |
| MIE1727H | Quality Assurance |

***Two home department elective courses:***
Students must choose two courses from their own home department specific lists developed for the Integrated Manufacturing Collaborative Program (to be updated yearly). The lists are available in their respective graduate departments at the beginning of the academic year.

***One technical elective course:***
Students must choose one elective course from any one of the participating engineering graduate departments, not necessarily from their own home department.

During the academic year, students will be encouraged to attend company site visits, technical workshops, seminars, verbal and written communication development courses, and computer programming courses. These are arranged by the program director at no cost to the student (except for possible transportation costs). Students in the collaborative program will also be encouraged to become student members of the Society of the Manufacturing Engineers, also at no cost.

# International Relations (Collaborative Program)

**Program Committee**
S. H. E. Clarkson, BA, MA, D de Rech/Political Science
H. Friedmann, AB, MA, PhD/Sociology
J. A. Graff, MA, PhD/Philosophy
S. K. Howson, BA, MA, MSc, PhD/Economics
J. J. Kirton, BA, MA, PhD/Political Science
W. K. Wark, BA, MA, PhD/History
D. Welch, BA, AM, PhD, Ignatieff Chair/Political Science ***(Director)***

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**Collaborative Master of Arts/Master of Science Program in International Relations**
The graduate departments of Anthropology; Economics; Geography; Health Policy, Management and Evaluation; History, Philosophy; Political Science; Sociology, and Study of Religion, in conjunction with the Faculty of Law and the Centre for International Studies (CIS), offer a collaborative Master of Arts/Master of Science degree program in International Relations.

Students entering the collaborative program must register in one of the participating departments and must also register with CIS.

**Combined Juris Doctor/Master of Arts, Law and Political Science (Specialization in International Relations)**
A Combined J.D./M.A., Law and Political Science (Specialization in International Relations) is also available. Please consult the Web site for details.

**Admission Requirements**
**1** Admission will be subject to the approval of the graduate department concerned and the collaborative program.
**2** A cumulative average of A- is normally required for admission.
**3** Applicants will normally be expected to have completed and passed an introductory course in microeconomics and macroeconomics at the undergraduate level.

**Program Requirements**
Collaborative international relations students are required to complete three core half-courses, one half-course in macroeconomics, and one half-course in public international law. 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 M.A. supervisors, or from the collaborative program's Web site listed above.

Students must demonstrate competence in a second language.

**Graduation Requirements**
The home department, in consultation with the Director of the Collaborative Program in International Relations, recommends to the School of Graduate Studies that a candidate should graduate following successful completion of the above program requirements. Graduates receive a master's degree in the field of their home department, with a transcript notation indicating completion of the Collaborative Program in International Relations.

# International Studies

## Graduate Faculty

### Full Members

R. D. Accinelli, BA, MA, PhD/History
V. A. Aivazian, BS, MA, PhD/Economics
W. M. D. Baker, BCom, MA, PhD/Economics
H. D. Benjamin, BSc, MA, PhD/Economics
R. A. Berry, BA, PhD, FRSC/Economics
Y. M. Bodemann, MA, PhD/Sociology
R. S. Bothwell, BA, AM, PhD, FRSC/History
A. Braun, BA, MA, PhD/Political Science
D. J. S. Brean, BA, BBA, MBA, MSc, PhD/Management
R. C. Brown, BA, MA, PhD FRSC/History
R. J. Brym, BA, MA, PhD/Sociology
S. H. E. Clarkson, BA, MA, D de Rech/Political Science
J. S. Cohen, BA, MA, PhD/Economics
J. R. D'Cruz, BA, MBA, DBA/Management
A. G. Daniere, MPP, PhD, MCIP/Geography
R. J. Deibert, BA, MA, PhD/Political Science
D. N. Dewees, BSc, LLB, BScEE, PhD/Economics
M. W. Donnelly, BS, Institute Certificate, MA, PhD, David Chu Professor of Asia-Pacific Studies/Political Science
S. M. Eddie, BS, PhD/Economics
D. L. Eyoh, BA, MA, PhD/Political Science
V. C. Falkenheim, BA, MA, PhD/Political Science
E. W.-C. Fong, BA, MA, PhD/Sociology
H. Friedmann, AB, MA, PhD/Sociology
M. A. Fuss, BSc, MA, PhD/Economics
N. T. Gallini, BA, MA, PhD/Economics
M. S. Gertler, BA, MCP, PhD, MCIP, Goldring Chair in Canadian Studies (UC)/Geography
J. A. Graff, MA, PhD/Philosophy
F. J. C. Griffiths, BA, MIA, PhD/Political Science
M. H. Gunderson, BA, MA, PhD, CIBC Professor of Youth Employment/Economics
T. F. Homer-Dixon, BA, PhD/Political Science
S. Horton, BA, MA, PhD/Economics
S. K. Howson, BA, MA, MSc, PhD/Economics
P.-C. Hsiung, BA, MA, PhD/Sociology
J. R. Iton, BA, MA, PhD/Political Science
R. E. Johnson, BA, MA, PhD/History
P. W. T. Kingston, BA, MA, MPhil, DPhil/Political Science
J. J. Kirton, BA, MA, PhD/Political Science
B. A. Langille, BA, LLB, BCL/Law
R. B. Lee, BA, MA, PhD, FRSC, University Professor/Anthropology
M. D. Levin, BA, MA, PhD/Anthropology
H. V. Luong, BA, MA, PhD/Anthropology
L. S. MacDowell, BA, MSc, PhD/History
V. W. Maclaren, BA, MRP, MSc, PhD, MCIP/Geography
M. R. Marrus, BA, MA, PhD, FRHistS, FRSC, Chancellor Rose and Ray Wolfe Professor of Holocaust Studies/History
R. O. Matthews, BA, MIA, PhD/Political Science
P. L. McCarney, BA, MCP, PhD/Political Science
D. E. Moggridge, BA, MA, PhD/Economics
J. Myles, BA, BPh, BTh, MA, PhD, Canada Research Chair/Sociology
N. Nevitte, BA, MA, PhD/Political Science
A. M. Noyek, MD, FRCSC/Public Health Sciences
J. C. Paradi, BASc, MASc, PhD, FCAE, PEng, SSHRC/NSERC Industrial Research Chair in the Management of Technological
Change/Chemical Engineering & Applied Chemistry
L. W. Pauly, BA, MA, MSc, MA, PhD/Political Science ***(Director)***
P. H. Pauly, MA, PhD/Management
S. B. Philpott, BA, MA, PhD/Anthropology
D. Pietropaolo, BSc, MA, PhD/Italian Studies
R. W. Pruessen, BA, MA, PhD/History
A. Rossos, BA, MA, PhD/History
A. G. Rubinoff, BA, MA, PhD/Political Science
J. W. Salaff, BA, MA, PhD/Sociology
K. R. J. Sandbrook, BA, MA, DPhil, FRSC/Political Science
K. Sieciechowicz, BA, MA, PhD/Anthropology
R. E. B. Simeon, BA, MA, PhD/Political Science
G. Skogstad, BA, MA, PhD/Political Science
G. A. Smith, MA, PhD/Anthropology
D. P. Smyth, BA, PhD, FRHistS/History
P. H. Solomon, BA, MA, CertRussInst, PhD/Political Science
S. G. Solomon, BA, MA, CertRussInst, PhD/Political Science
J. G. Stein, BA, MA, PhD, FRSC, University Professor, Harrowston Professor of Conflict Management and Negotiation/Political Science
R. E. Stren, BA, MA, PhD/Political Science
J. A. Teichman, BA, MA, PhD/Political Science
M. J. Trebilcock, LLB, LLM, FRSC, University Professor/Law
D. Trefler, BA, MPh, PhD/Economics
C. J. Tuohy, BA, MA, PhD/Political Science
A. Verma, BTech, MBA, PhD/Management
J. W. P. Veugelers, BA, MA, PhD/Sociology
R. C. Vipond, BA, AM, MA, PhD/Political Science
W. K. Wark, BA, MA, PhD/History
D. A. Welch, BA, AM, PhD, Ignatieff Chair/Political Science
D. A. Wolfe, BA, MA, PhD/Political Science
P. Wróbel, MA, PhD/History

### Members Emeriti

J. S. Barker, AB, MA, PhD/Political Science
R. M. Bird, BA, MA, PhD, FRSC/Management
R. Gregor, BA, MA, PhD/Political Science
G. K. Helleiner, BA, PhD, FRSC/Economics
B. Kovrig, BA, MA, PhD/International Studies
R. C. Pratt, BA, MPhil, FRSC/Political Science
A. E. Safarian, BA, PhD, FRSC/Management

**Associate Members**

A. Alexandroff, BA, MA, MA, PhD, LLB, PhD/International Studies
S. Bernstein, BA, MA, PhD/Political Science
C. G. Chalin, PhD, MDiv/Public Health Sciences
T. W. Delworth, BA, MA/Honorary Senior Associate/Trinity
J. H. Dirks, BSc, MD, FACP, FRCP(C), FRSC/International Studies
W. K. Dobson, BScN, MPA, SM, PhD/Management
B. A. Fischer, BA, MA, PhD/International Studies
P. I. Hajnal, BA, MS(LS)/Information Studies
G. Indart, BA, MA, PhD/Political Science
J. S. Keystone, MD, MSc(CTM), FRCP(C)/International Studies
N. Kokaz, BA, BA, MA, PhD/Political Science
D. Mazumdar, BA, PhD/International Studies
F. McKenzie, BA, MA, PhD/History
J. M. Mintz, BA, MA, PhD/Management
E. P. Neufeld, BA, PhD/International Studies
S. Ostry, BA, PhD/International Studies
D. Puga, Ldo, MSc, PhD/Economics
K. N. Rankin, BA, MRP, PhD/Geography
A. Rotstein, BA, PhD/Political Science
A. M. Rugman, BA, MSc, PhD/International Studies
P. Shaffer, DPhil, MA/International Studies
C. D. Shearing, BSocSci, MA, PhD/Political Science
P. Warrian, BA, MA, PhD/Industrial Relations
M. H. Watkins, BCom/Political Science
D. Zakus, BSc, MES, MSc, PhD/Public health Sciences

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The Centre for International Studies (CIS) was established in December 1976. Its purpose is to encourage and facilitate interdisciplinary research and teaching in international studies, broadly defined. The major departments and faculties that cooperate closely with the Centre include Anthropology, East Asian Studies, Economics, Geography, History, Law, Management, Political Science, and Sociology. The Centre also works cooperatively with the Centre for Russian and East European Studies, the Institute for Policy Analysis, the International Relations Program of Trinity College, and the Joint Centre for Asia Pacific Studies. CIS sponsors lectures and seminars by U of T faculty members and graduate students as well as by visiting scholars and practitioners. It administers a small endowment to assist Ph.D. students needing to travel abroad in order to complete dissertations in international and comparative fields of study.

The Centre sponsors several continuing research programs, including programs on Latin America and the Caribbean, International Conflict Management and Negotiation, Health and Global Affairs, NAFTA and its Effects, Trade and the Environment, Development Strategy, Global Governance, China and the World Economy, Mediterranean Studies, and Globalization and Regional Innovation Systems.

Graduate students with an interest in international studies are encouraged to visit or call the Centre for further information.

***International Relations (Collaborative Program)***

The Centre administers the Collaborative M.A./M.Sc. Program in International Relations. Consult the separate entry in this calendar.

# Italian Studies ITA

## Graduate Faculty

### Full Members

S. Bancheri, BA, MA, PhD
R. Capozzi, BA, MA, PhD
***(Coordinator of Graduate Studies to December 31, 2002)***
G. P. Clivio, BA, MA, PhD
K. Eisenbichler, BA, MA, PhD
***(Coordinator of Graduate Studies from January 1, 2003)***
A. Franceschetti, LittD, PhD
M. Gieri, DLett, PhD
F. Guardiani, DLett, MA, PhD
M. Lettieri, BA, MA, PhD
D. Pietropaolo, BSc, MA, PhD
***(Chair)***
O. Pugliese, BA, MA, PhD
G. Sanguinetti-Katz, DLett, MA, PhD
L. Somigli, DLett, PhD

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Candidates are accepted under the general regulations provided that they also satisfy the Department's requirements stated below. In all cases their programs must be approved by the Department.

### Degree of Master of Arts

Applicants for admission to the M.A. program should submit two letters of recommendation with their application.

For entry into a one-year M.A. program, candidates must have completed seven full undergraduate courses (or equivalent) in Italian to include an appropriate upper-year full course (or equivalent) in language and three full courses (or equivalent) in three different periods of literature. They must also have achieved at least B+ standing in their University of Toronto 300- and 400-series courses (or in equivalent courses).

The requirement for the M.A. degree is the completion of the course ITA 1000H *Methodologies for the Teaching and Study of Italian* and of four other full graduate courses or equivalent.

The Department will determine whether candidates need to complete prerequisite work in order to qualify for admission to a Master of Arts program and will advise candidates accordingly.

### Degree of Doctor of Philosophy

Applicants for admission to the Ph.D. program must have completed the University of Toronto M.A. or its equivalent and should submit two letters of recommendation with their application.

Candidates, approved by the Department, must have obtained an overall average of at least A- in the courses taken for the M.A. degree. Candidates must maintain the A- average in order to remain in the program.

The program consists of four further full graduate courses, or equivalent, for a total of eight courses, including those taken for the M.A. degree. Also required are a qualifying examination, a thesis, and a final oral examination on the thesis.

The degree is offered in the general field of either:
**1** Italian Language/Linguistics and Literature, or
**2** Romance Languages and Literatures.

**1** In Italian Language/Linguistics and Literature candidates may elect one of the following combinations of major subject (a minimum of six full courses or equivalent) and minor subject (two full courses or equivalent):
**a** Italian Language/Linguistics (major) and Italian Literature (minor) or
**b** Italian Literature (major) and Italian Language/Linguistics (minor).

For the major subject, candidates may choose one graduate course outside the Department in a subject cognate with the candidate's area of specialization and approved by the Department.

Candidates must have completed the course 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 the third year of Ph.D. registration, must have demonstrated a reading knowledge of Latin and of one other language approved by the Department. Upon completion of all course requirements, and not later than the second year of the Ph.D. program, they will complete the series of written and oral qualifying examinations and, if successful, proceed to prepare their theses.

Permission to write the thesis in Italian (subject to final approval by the School of Graduate Studies) may be granted to candidates who first pass a supervised essay-type English examina-

tion to demonstrate proficiency in writing correct and idiomatic English prose.

**2** The program for the Ph.D. in Romance Languages and Literatures is administered by a committee representing the departments of French Language and Literature, Spanish and Portuguese, and Italian Studies. The program of study must include one major subject and two minor subjects. The major must be either Romance languages or Romance literatures. At least six courses shall normally be taken in the major subject. The courses comprising this major must include offerings from all three Romance departments. If the major is Romance languages, the first minor must be Romance literatures. The two courses comprising this minor must be drawn from the offerings of at least two of the three Romance departments. If the major is Romance literatures, the first minor must be Romance languages. These two courses must be drawn from two of the three Romance departments. The second minor may also be drawn from one of the three Romance departments or from an associated field. In all cases a program must be approved by the Romance Committee.

Candidates must demonstrate a knowledge of French and German within the first year of registration for the Ph.D. degree, a reading knowledge of Italian, Spanish, and Latin, and an oral and written command of their principal Romance Language. They must also have passed the course ITA 1000H *Methodologies for the Teaching and Study of Italian*.

**Courses of Instruction**

Not all courses are offered every year. Please consult the Department regarding course availability.

| | |
|---|---|
| ITA 1000H | Methodologies for the Teaching and Study of Italian (CR/NCR)/ *Staff* |
| ITA 1025H | Old Italian/*G. P. Clivio* |
| ITA 1026H | Italian Dialectology/*G. P. Clivio* |
| ITA 1027H | Friulian Language and Literature/ *Staff* |
| ITA 1028H | History and Culture of Molise/ *Staff* |
| ITA 1087Y | Italian Syntax and Stylistics/*G. P. Clivio* |
| JRL 1100Y | Introduction to Romance Philology/*G. P. Clivio* |
| ITA 1170H | Textual Criticism and the Editing of Early Italian Texts/*M. Lettieri* |
| ITA 1200H | Dante/*D. Pietropaolo* |
| ITA 1203H | Boccaccio/*Staff* |
| ITA 1330H | Petrarch and Petrarchism/*Staff* |
| ITA 1520H | Renaissance Humanism/ *O. Pugliese* |
| ITA 1525H | Renaissance Dialogue/ *O. Pugliese* |
| ITA 1530H | Machiavelli/*O. Pugliese* |
| ITA 1535H | Topics in Italian Literature (Renaissance Chivalric) |
| ITA 1540H | Renaissance Italian Theatre/ *E. Eisenbichler* |
| ITA 1545H | The Sacra Rappresentazione/ *K. Eisenbichler* |
| ITA 1560Y | Chivalric Literature from the Origins to Ariosto/*A. Franceschetti* |
| ITA 1565H | Tasso/*F. Guardiani* |
| ITA 1591H | Baroque Poetics and Poetry/ *A. Franceschetti* |
| ITA 1592H | Baroque Poetry and Neobaroque Poetics/*F. Guardiani* |
| ITA 1594H | Arcadia and Eighteenth-Century Literature/*A. Franceschetti* |
| ITA 1597H | The Commedia dell'Arte/ *D. Pietropaolo* |
| ITA 1601H | Vico/*D. Pietropaolo* |
| ITA 1605H | Theories of the Stage and Dramatic Criticism/*D. Pietropaolo* |
| ITA 1661H | Topics in Nineteenth-Century Italian Literature/*Staff* |
| ITA 1662H | Topics in Italian Romanticism/ *Staff* |
| ITA 1668H | Verga and Verismo/ *G. Sanguinetti-Katz* |
| ITA 1705H | Pirandello/*M. Gieri* |
| ITA 1710H | Aspects of Modern Italian Poetry/ *R. Capozzi* |
| ITA 1720H | Italian Theatre from Verismo to Futurism/*G. Katz* |
| ITA 1723H | Trends in the Italian Novel 1900-1960/*R. Capozzi* |
| ITA 1728H | New Trends in the Italian Novel From 1957 to the Present/ *R. Capozzi* |
| ITA 1729H | Contemporary Literary Criticism in Italy/*R. Capozzi* |
| ITA 1730Y | Aspects of Semiotic Theory and Practice in Italy/*R. Capozzi* |
| ITA 1735H | Topics in Italian Studies I/*Staff* |
| ITA 1736H | Topics in Italian Studies II/*Staff* |
| ITA 1740H | Contemporary Italian Women Writers/*M. Gieri* |
| ITA 1760H | From Futurism to Novecentismo: The Rise and Fall of the Italian Avant-Garde/*L. Somigli* |
| ITA 1810H | Studies in Italian Literature and Film/*M. Gieri* |
| JMI 1951H | Italian Musical Theatre of the Baroque and Classic Periods/ *D. Pietropaolo, M. A. Parker* |

(CR/NCR) Credit/No Credit

| | |
|---|---|
| ITA 2010Y | Directed Research in Italian Linguistics/*Staff* |
| ITA 2020H | Directed Computer Research in Italian Studies/*Staff* |
| ITA 2021H | Computer Assisted Research in Italian Language and Literature/*S. Bancheri* |
| ITA 3000H | Topics in Italian-Canadian Studies/*Staff* |
| ITA 3001H | Italian-Canadian Culture/*Staff* |
| JIC 5000H | Narrativity and Intertextuality in Italian Fiction/*R. Capozzi* |

# Knowledge Media Design (Collaborative Program)

## Graduate Faculty

### Full Members

R.M. Baecker, BS, MSc, PhD, Bell University Laboratories Chair in Human-Computer Interaction/ Computer Science
M. H. Chignell, BSc, MSc, PhD/Mechanical & Industrial Engineering
C. W. Choo, BA, MA, MSc, DipBusAdmin, DipComputerSci, PhD/Information Studies
A. Clement, BSc, MSc, PhD/Information Studies ***(Program Director)***
D. de Kerckhove, BA, MA, PhD, Dip 3ieme Cycle, FRSC/Information Studies
S. M. Easterbrook, BSc, PhD/Computer Science
E. L. Fiume, BM, MSc, PhD/Computer Science
M. S. Fox, BSc, PhD, FAAAI, FCIAR, NSERC Industrial Research Chair in Enterprise Integration/Mechanical & Industrial Engineering
C. L. Jones, BA, MA, PhD/Sociology
D. I. Lancashire, BA, MA, PhD/English
P. Milgram, BASc, MSEE, PhD, PEng/Mechanical & Industrial Engineering
J. W. Salaff, BA, MA, PhD/Sociology
I. Spence, MA, PhD/Psychology
L. Spero, BPhm, PhD/Pharmacology, Medical Science
K. J. Vicente, BASc, MSc, PhD/Mechanical & Industrial Engineering
J. Weiss, BA, MA, PhD/Curriculum, Teaching & Learning
B. Wellman, BA, MA, PhD/Sociology

### Associate Members

J. W. Danahy, BLA, CUrbDes, MscUrb&DesPl/ Architecture, Landscape, & Design
M. Schraefel, MSc, PhD/Computer Science
E. Toms, BA, BEd, MLIS , PhD/Information Studies
P. P. Trifonas, BA, BEd, MA, PhD/Curriculum, Teaching & Learning
E. S. K. Yu, BSc, MMath, PhD/Information Studies
R. Wright, BScRec, MLA/Architecture, Landscape, & Design

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## Nature of the Collaborative Program

The Knowledge Media Design Institute (KMDI) was established in 1998 as a focus for those members of the university community interested in the emerging cross-disciplinary field of knowledge media design. Knowledge media will shape the products, processes, and practices of the 21st century.

The Collaborative Program in Knowledge Media Design (KMD) provides a specialization for graduate students from a variety of academic backgrounds to engage in the design, prototyping, evaluation, and use of media intended to support and enhance the ability of individuals and groups to think, communicate, learn, and create knowledge. In keeping with KMDI's human-centred approach, students will 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 will encourage students to take a broader view of technological and social change and to be constructively critical of both technological utopians and dystopians. 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 available to master's and Ph.D. students in one of the following graduate units:
Architecture, Landscape, and Design
Computer Science
Information Studies
Mechanical and Industrial Engineering
Sociology

## Admission Requirements

Application should be made to one of the five participating graduate units. 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 department concerned and the Program Committee of the Collaborative Program.

## Program Requirements

**1** Students must meet all the requirements of their home department.
**2** Master's students must successfully complete KMD 1000Y and two half-courses selected from a list of electives; at least one of

these half-courses must be from the KMD 2001-2004 series. Master's students must also complete a thesis/research project component in their home department, the topic of which must be relevant to the field of knowledge media design.
**3** 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.
**4** Doctoral students are required to take KMD 1000Y if not already taken in the master's program, one half-course from the KMD 2001-2004 series, and to have a dissertation topic in the field of knowledge media design. The thesis advisor and at least one other committee member must be from participating units.
**5** 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 of Instruction**
For courses offered in a particular year, check the Collaborative Program Web site: www.kmdi.utoronto.ca/collaborative.

***Knowledge Media Design***

*Required*
KMD 1000Y Core Seminar in Knowledge Media Design Issues

*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. This list will be updated annually. 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 Office Information Systems
CSC 2509H Data Management Systems
CSC 2511H Natural Language Computing
CSC 2514H Human-Computer Interaction
CSC 2524H Topics in Interactive Computing
CSC 2527H The Business of Software
CSC 2536H Computer Support Cooperative Work
CSC 2537H Hypermedia
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 Database Design
FIS 2103H Organizational Knowledge Management
FIS 2149H Administrative Decision Making in Information Organizations
FIS 2150H Advanced Management of Information Organizations
FIS 2165H The Social Impact of Information Technology
FIS 2169H User-Centred Information Systems Development
JAC 1001H Media, Mind and Society I
MIE 1404H Human Factors in Information Technology
MIE 1407H Engineering Psychology and Human Performance
MIE 1409H Design of Ecological Interfaces
MIE 1502H Information Technology and Systems: Management Strategies
MIE 1504H Management of Technological Change
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

# Laboratory Medicine and Pathobiology LMP

## Graduate Faculty

### Full Members

M. M. Abdelhaleem, MD, PhD, FRCP(C)
K. Adeli, BSc, MSc, PhD
B. A. Alman, MD, FRCSC
I. L. Andrulis, BA, PhD
S. L. Asa, MD, PhD, FRCP(C), FCAP
I. Aubert, BSc, PhD
B. Bapat, BSc, MSc, PhD
D. Barber, BSc, PhD
L. E. Becker, MD, FRCP(C)
M. Bendeck, BSc, PhD
C. Bergeron, MD, FRCP(C)
R. E. Bishop, BSc, PhD
J. M. Boggs, BA, MSc, PhD
A. L. Bognar, BSc, PhD
R. A. Bremner, PhD
M. Brown, BSc, MSc, PhD
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R. G. Cameron, MD, PhD, FRCP(C)
V. L. Chan, BSc, MSc, PhD
D. E. C. Cole, MD, PhD, FRCP(C)
P. W. Connelly, BA, PhD
D. W. Courtman, BSc, MSc, PhD
T. F. Cruz, BSc, PhD
E. Cutz, MD, FRCP(C)
M. I. Cybulsky, MD
J. C. S. de Azavedo, BSc, MSc, PhD
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G. Denome, BSc, PhD
S. Der, BSc, PhD
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S. Done, MB, BCh, MA, BA, MBA, PhD, FRCP(C)
D. J. Drucker, MD, FRCP
I. D. Dubé, PhD
R. P. Ellen, DDS, CertPerio, CertOralMed&Microbio
H. P. Elsholtz, BSc, MSc, PhD
***(Coordinator of Graduate Studies)***
S. Gallinger, MD, MSc, FRCP(C)
A. I. Gotlieb, BSc, MDCM, FRCP(C)
***(Chair)***
M. D. Grynpas, MSc, PhD
N. Gupta, MD, PhD, FRCSC
P. A. Hamel, BSc, PhD
G. Hannigan, PhD
J. B. Hay, BSc, MSc, PhD
C.-L. Hew, BSc, MSc, PhD
A. Hinek, MD, PhD, DSc
J. Hu, BSc, PhD
M. Husain, BSc, MD
D. M. Irwin, BSc, PhD
G. Jackowski, PhD
T. Jin, MD, PhD
M. G. Johnston, BSc, PhD
S. Joshi, BSc, MSc, PhD, DSc
S. Jothy, MD, MSc, PhD, LMCC, FRCP(C)
K. C. Kain, MD, FRCP(C)
S. Kamel-Reid, BA, MA, PhD
R. A. Kandel, MD, FRCP(C)
B. M. Kapur, DPhil, FRIC, FCACB
F. W. Keeley, BSc, PhD
R. S. Kerbel, BSc, PhD, John & Elizabeth Tory Professor of Experimental Oncology
R. Khokha, BSc, MSc, PhD
B. L. Langille, BSc, MSc, PhD
A. Lazarus, PhD
G. A. Levy, BSc, MD, FRCP, FRCP(C)
C.-C. Liew, BSc, PhD
C. A. Lingwood, BSc, PhD
D. E. Low, BSc, MD
G. L. Lukacs, MD, PhD
D. J. Mahuran, PhD
A. Marks, MD, PhD
P. A. Marsden, MD, Keenan Chair in Medical Research
T. Mazzulli, MD, FRCP(C)
M. McGavin, BSc, PhD
C. McKerlie, DVM, DVSc, MRCVS
J. McLaurin, BSc, MSc, PhD
D. A. G. Mickle, BSc, MD, MSc, CSCC, RCPS(C)
J. O. Minta, BSc, MSc, PhD
J. Mogridge, BSc, PhD
M. A. Moscarello, BA, MD, PhD
S. Nag, MBBS, MD, MSc, PhD, FRCP(C)
M. Ohh, BSc, PhD, Canada Research Chair
H. Özcelik, PhD
M. Petric, BSc, MSc, PhD
M. J. Phillips, MDCM, MCPath, FCAP, FRCP
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K. P. H. Pritzker, BSc, MD, FRCP(C)
M. Rabinovitch, BSc, MD, FRCP(C)
S. Rajalakshmi, BSc, MA, PhD
M. L. Rand, BSc, PhD
S. E. Read, MSc, MD, PhD
M. D. O. Reis, MD
J. T. Rutka, MD, PhD, FRCS(C)
D. S. R. Sarma, BSc, MSc, PhD
J. W. Semple, PhD
A. Seth, BSc, MSc, PhD
P. N. Shek, BSc, MSc, PhD
P. M. Sherman, MD, FRCP(C), Canada Research Chair
J. A. Squire, BSc, MSc, PhD, JC Boileau Grant Chair in Oncologic Pathology
L. Stefaneanu, PhD
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B. H. Strauss, MD
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D. M. Templeton, BSc, MD, PhD
H. C. Tenenbaum, DDS, DipPerio, PhD, FRCD(C)
P. S. Thorner, MD, PhD, FRCP(C)

M.-S. Tsao, BSc, MD, FRCP(C)
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W. F. Vogel, BSc, PhD
C. Wang, MD, PhD, FRCPC
Y. T. Wang, MD, MSc, PhD
M. Ward, MD, PhD, FRCP(C)
D. A. Westaway, BSc, PhD
G. J. Wilson, BSc, MSc, MD, FRCP(C)
P.-Y. Wong, PhD, FCACB
T.-W. Wu, BSc, MSc, PhD
B. B. Yang, BSc, MSc, PhD
H. Yeger, BSc, MSc, PhD
Y. Yucel, MD, PhD, FRCP(C)
E. Zacksenhaus, BSc, PhD
L. Zhang, MD, MSc, PhD
M. Zielenska, MSc, PhD

**Associate Members**
B. Fernandes, MB, ChB, FRCP(C)
V. L. M. Fornasier, MD, FRCP(C)
V. Leytin, MSc, PhD, DSc
R.-K. Li, MSc, PhD
B. J. M. Mullen, MD, FRCP(C)
M. Redston, MD
R. Riddell, MBBS
A. Romaschin, PhD, FCACB
N. Shaikh, MSc, PhD
I. Tein, BSc, MD
I. E. Teshima, BSc, MSc, PhD, FCCMG, FACMG
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*Financial Assistance and Curriculum Inquiries:*
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The program in Laboratory Medicine and Pathobiology provides a curriculum of courses and a broad-based multidisciplinary approach to research in mechanisms of disease leading to M.Sc. and Ph.D. degrees. The program emphasizes the development of analytical techniques, the application of basic research techniques in biochemistry, cell biology, experimental pathology, genetics, immunology, and molecular biology to the study of mechanisms of cell and tissue injury and the pathogenesis of disease. Moreover, the program emphasizes the nature, mechanisms, therapy, and prevention of microbial diseases in humans, as well as the processes by which pathogenic microbes are spread.

**Current Research Areas**
Analytical Biochemistry
Antimicrobial Resistance: Surveillance and Mechanisms
Biotechnology
Bone and Connective Tissue Diseases including Disorders of Mineral Metabolism
Cancer Development and Prevention
Cardiovascular and Pulmonary Disorders
Cell-Cell and Cell-Matrix Interactions
Cell Cycle, Differentiation, and Signal Transduction Mechanisms
Endocrine Disorders
Gene Therapy
Immune and Inflammatory Disorders
Lipid Disorders
Lymphatic Pathobiology
Microbial Pathogenesis
Neurobiology, Neuroendocrinology, and Neuropathology
Proteomics
Protein Structure and Function
Toxicology
Vascular Cell Biology
Viral Diseases

For details consult the departmental Web site www.utoronto.ca/LabMedPathobiology/.

**Note:** All M.Sc. and Ph.D. students are supervised by a graduate faculty member and an advisory committee.

**Degree of Master of Science**

***Admission Requirements***
**1** Candidates for this degree must have completed, or be about to complete, a four-year honours B.Sc. program in biological and/or biochemical sciences, an M.D., D.D.S., or D.V.M. degree or an equivalent degree.

**2** A minimum B+ average over the final two years of undergraduate study.
**3** Research experience evidenced by publications, abstracts, or presentations are an asset.
**4** Two strong letters of recommendation from referees familiar with the applicant's academic work. Departmental appraisal forms must be used.
**5** Résumé.
**6** Statement of intent (approximately 250 words/one page).
**7** Applicants for this degree program are selected by the Departmental Admissions Committee on the basis of academic excellence and successful performance at an interview with one of the departmental graduate faculty members. Admission to the program will be finalized when the supervisor agrees to guarantee a full stipend for the candidate.

***Program Requirements***
**1** Students must be on campus and participating for the duration of their registration in the program.
**2** 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.
**3** 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 (75% attendance is required).
**4** Students exempted from LMP 1404H will take a departmental half-course as a substitute. The Student Advisory Committee may recommend additional courses.
**5** Completion of a thesis on research conducted by the student, under the supervision of a faculty member, assisted by a thesis advisory committee.
**6** The duration of the M.Sc. program is usually 18 months. Within 12 to 18 months of entry, students will undergo an assessment examination, the outcome of which will be instruction to do one of three things:
**a** write a thesis on research completed,
**b** transfer to Ph.D., or
**c** withdraw from the program.
**7** It is expected that the research content of an M.Sc. thesis should generate an equivalent of one paper published in a peer-reviewed scientific journal.

***Transfer from M.Sc. to Ph.D. Program***
M.Sc. students must complete an assessment examination between 12 and 18 months of entry into the program.

Outstanding students, with a high academic standing (normally minimum A- average on M.Sc. courses) who have clearly demonstrated ability to do research at the doctoral level and with the recommendation of their advisory committee, may request consideration for transfer to the Ph.D. program based on performance at the assessment examination.

The student's supervisor will schedule the assessment examination upon recommendation of the thesis advisory committee.

The examining committee will consist of six members of the graduate faculty including (a) the Graduate Coordinator (or a representative) who will chair the examination committee; (b) the student's advisory committee and (c) one member from another graduate department who is not a member of the student's advisory committee.

Students who take graduate courses during M.Sc. training at the University of Toronto, may obtain credit for graduate level courses toward their Ph.D. degree. Courses from other universities must be approved by the Graduate Coordinator. Certain restrictions apply. Please consult the departmental graduate unit.

## Degree of Doctor of Philosophy

***Admission Requirements***
**1** Candidates for this degree must hold an M.Sc., M.D., D.D.S., D.V.M., or an equivalent qualification.
**2** An A- average or higher in graduate courses or in a fourth year specialist program if there were no course requirements in the M.Sc. program.
**3** Research experience evidenced by publications, abstracts, or presentations are an asset.
**4** Two strong letters of recommendation from referees familiar with the applicant's academic work. Departmental appraisal forms must be used. Ideally, one of the referees should be the applicant's supervisor.
**5** Résumé.
**6** Statement of intent (approximately 250 words/one page).
**7** Applicants for this degree program will be selected by the Departmental Admissions Committee on the basis of academic excellence and on successful performance at an interview with one of the departmental graduate faculty members. Admission to the program will be finalized when the supervisor agrees to guarantee a full stipend for the candidate.

### *Direct Entry to Ph.D. Program*

Undergraduates with A- to A+ grades in the third and fourth years of relevant courses may be considered for direct entry into the Ph.D. program.

### *Program Requirements*

**1** Students must be on campus and participating for the duration of their registration in the program.
**2** It is expected that doctoral students will complete their Ph.D. degrees within four years of registration in the program. However, short extensions for good cause may be permitted at the discretion of the Graduate Coordinator.
**3** 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 Ph.D. program. The Student Thesis Advisory Committee may recommend additional courses.
**4** Students exempted from LMP 1404H will take a departmental half-course as a substitute.
**5** In addition, all students will be required to take two full graduate courses (or four half-courses) plus an ongoing credit/no credit seminar course, LMP 1001Y (75% attendance is required).These courses must include at least one half-course in Laboratory Medicine and Pathobiology. Whenever feasible, courses should be completed in the first two years of the program, the continuing seminar course excepted. A high priority is placed on focusing the latter half of the program on research only.
**6** Students who take graduate courses during the M.Sc. program in the Department of Laboratory Medicine and Pathobiology and who transfer to the Ph.D. program may receive credit for master's courses towards doctoral course requirements.
**7** The other requirement is a thesis which the student must defend orally, first before the Department and subsequently before a committee set up by the School of Graduate Studies.
**8** The Ph.D. thesis must demonstrate a substantial contribution to laboratory medicine and pathobiology that involves a systemic investigation of disease-related hypotheses. The standard of work in the Ph.D. thesis must be publishable in both content and presentation. The emphasis is on quality of the science and its presentation. The Ph.D. thesis normally is expected to be equivalent to three publications in refereed scientific journals.
**9** Ph.D. students are expected to present at least one graduate research seminar in LMP 1001Y prior to their departmental oral thesis defence examination.

### *Transfer from Ph.D. to M.Sc. Program*

Prior to the start of the third year of the Ph.D. program, the supervisory committee may recommend that the student transfer to the M.Sc. program; the student may also request the transfer.

### M.D./Ph.D. Program

A limited number of selected students may enter the M.D./Ph.D. program subject to admission into both a department Ph.D. program and the M.D. program.

### Collaborative Programs

An M.Sc. or Ph.D. degree may be taken through this Department in the following collaborative programs:
Biomedical Engineering
Cardiovascular Sciences
Neuroscience
Toxicology (*see* Environmental Studies)
For more details, consult the separate entries in this calendar.

### Courses of Instruction

Not all courses are offered every year. Please check the departmental Web site, www.utoronto.ca/LabMedPathobiology/, for course availability.

JBL 1507H Biochemistry of Inherited Disease/*D. J. Mahuran*

LMP 1001Y Graduate Seminars in Laboratory Medicine and Pathobiology (Credit/No Credit)/*D. M. Irwin*
Mandatory for all M.Sc. and Ph.D. students in the Department of Laboratory Medicine and Pathobiology

LMP 1005Y General and Special Pathology (for Oral Pathology Residents only)/*R. J. McComb*

LMP 1006H Biological Electron Microscopy/ *B. J. M. Mullen*

LMP 1012H Seminars on Pathology (open to students in Biomedical Communications only)/*M. Khalifa*

LMP 1013H Neoplasia/*P. Hamel*

LMP 1015H Vascular Pathobiology/*B. L. Langille*

LMP 1016H The Pathology of Connective Tissue/*K. P. H. Pritzker*

LMP 1018H Molecular Biology and Applications to Human Disease/*J. O. Minta*

LMP 1019H Research Techniques in Molecular Biology and Pathobiology/*E. P. Diamondis*

LMP 1020H Inflammation, Immunity, and Immunopathology/*J. O. Minta*

LMP 1401Y Clinical Biochemistry (for Residents and Diploma students only)/*A. Vandenbroucke*

LMP 1404H Molecular and Cellular Mechanisms of Disease/*M. I. Cybulsky, P. A. Hamel*
Mandatory for all M.Sc. and Ph.D. students in the Department of Laboratory Medicine and Pathobiology

LMP 1405H Special Topics in Human Disease/*Staff*

LMP 1407H Introductory Clinical Epidemiology and Applied Biostatistics (Formerly Bench to Bedside)/*R. Vieth, A. Lytwyn*

LMP 1502H Atherosclerosis and Lipoprotein Disorders/*P. W. Connelly, A. I. Gotlieb*

LMP 1503H Signal Transduction Pathways in Normal and Diseased Tissues/*C. A. Lingwood*

LMP 1504H Cell and Molecular Biology of Cardiovascular Diseases/*A. I. Gotlieb*

LMP 1505H Analytical Clinical Biochemistry/*P.-Y. Wong*

LMP 1506H Techniques in Functional Genomics and Proteomics/*E. P. Diamandis, S. Der*

LMP 1510H Molecular Biological Aspects of Analytical Biochemistry: Molecular Biology Techniques/*D. Irwin, E. P. Diamandis*

LMP 2115H Selected Topics in Medical Microbiology/*M. Petric*

RSH 9999Y Research Project/*Staff*

# Law

## Graduate Faculty

### Full Members

D. M. Beatty, BA, LLB, LLM, Albert Abel Professor of Law
P. Benson, AB, MSc, LLB, LLM
A. Brudner, BA, MA, LLB, PhD
J. Brunnee, Ref jur, LLM, Doctor juris, Assoc jur
B. Chapman, BA, LLB, PhD
R. J. Cook, AB, MA, MPA, JD, LLM, JSD
B. Cossman, BA, LLB, LLM
R. J. Daniels, BA, LLB, LLM
***(Dean)***
K. Davis, BA, LLB, LLM
D. N. Dewees, BSc, LLB, BScEE, PhD
B. M. Dickens, LLB, LLM, PhD, LLD, Dr. William M. Scholl Chair in Health Law and Policy
D. G. Duff, BA, MA, LLB, LLM
A. J. Duggan, BA, LLB, LLM, LLD
D. Dyzenhaus, BA, LLB, DPhil, FRSC
J. Hagan, BA, MA, PhD, FRSC, University Professor
P. J. N. Halpern, BCom, MBA, PhD
H. N. Janisch, BA, MA, LLB, LLM, MCL, JSD, The Osler, Hoskin & Harcourt Chair in Law and Technology
K. Knop, BSc, LLB, LLM, SJD
B. A. Langille, BA, LLB, BCL
J. G. MacIntosh, BSc, LLB, LLM, The Toronto Stock Exchange Chair in Capital Markets
M. P. Macklem, BA, LLB, LLM
A. Macklin, BA, LLB, LLM
M. Moran, BA, BEd, LLB, LLM, SJD
E. M. Morgan, BA, LLB, LLM
J. Nedelsky, BA, MA, PhD
J. R. Phillips, MA, LLB, PhD
J. Putnam, BA, MA, PhD
D. G. Réaume, BA, LLB, BCL
A. Ripstein, BA, PhD, MSL
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C. Rogerson, BA, LLB, MA, LLM
D. Schneiderman, BA, LLB, LLM
M. Shaffer, AB, LLB, LLM
H. Stewart, BA, LLB, ARCT, PhD
M. J. Trebilcock, LLB, LLM, FRSC, University Professor
C. Valcke, LLB, LLM, JSD
S. Waddams, BA, LLB, MA, LLM, SJD, FRSC, The Goodman/Schipper Chair at the Faculty of Law
A. S. Weinrib, BA, LLB, LLM
E. J. Weinrib, BA, LLB, PhD, University Professor, The Cecil A. Wright Chair
L. E. Weinrib, BA, LLB, LLM

### Members Emeriti

M. L. Friedland, OC, QC, FRSC, BCom, LLB, PhD, University Professor Emeritus
R. C. B. Risk, BA, LLB, LLM
R. E. Scane, QC, BA
J. S. Ziegel, LLB, LLM, PhD, LLD

### Associate Members

A. Drassinower, BA, MA, LLB, PhD
C. Flood, BA, LLB, LLM, SJD
E. M. Iacobucci, BA, MPhil, LLB
M. M. A. Lemmens, CandIur, LicIur, LLM
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### Enquiries

Enquiries should be directed to the Graduate Programme Coordinator, Graduate Program, Faculty of Law at the address above.

### TOEFL Requirements

Candidates whose primary language is not English and who graduated from a university where the language of instruction and examination was not English must have a TOEFL score of at least 600 and a TWE score of 5 or higher on the paper-based test. For the computer-based TOEFL test, the minimum required total score is 250 with an essay rating score of 5. Offers of admission conditional upon successful completion of an English language test will not be offered.

### Degree of Master of Laws

Candidates for this degree are accepted under the general regulations and the special regulations governing administration of degrees of LL.M.

#### *Admission Requirements*

An applicant for admission to the degree of Master of Laws (LL.M.) must have a Bachelor of Laws or Juris Doctor degree from this or another recognized university, or possess equivalent qualifications, and must have demonstrated proficiency in the study of law. A minimum B+ average is required.

***Program Requirements***

**1** The candidate must be in attendance for at least one session (eight months).

**2** The candidate may pursue a thesis intensive program or a course intensive program. Both include a course of studies and a thesis requirement. The course intensive program is available to students without a Canadian undergraduate law degree.

**3** In determining the composition of such course of studies, the Faculty will endeavour to structure a program designed to accommodate an individual candidate and the subject matter of the thesis.

**4** However, such course of studies shall at all times be such as the Faculty shall determine.

**5** The course of studies for the thesis intensive program shall involve a minimum of eight credit hours. The course of studies for the course intensive program shall involve a minimum of 24 credit hours. Normally, the research intensive LL.M. thesis is between 100 and 150 pages, double spaced (approximately 45,000 words). Those pursing the course work intensive program must generally submit a thesis of 50 to 60 written pages.

**6** Unless an extension of time is granted by the Faculty and the School of Graduate Studies, all course requirements must be satisfactorily completed and submitted to the Faculty by May 31 of the academic year of attendance. Failure to comply with this requirement in relation to any course or courses shall result in a candidate being recorded as having failed such course or courses.

**7** All courses referred to in clause 5 must be satisfactorily completed before a thesis will be evaluated.

**8** A candidate who satisfactorily completes all course requirements must complete and present a satisfactory thesis to the Faculty by August 31 immediately following the academic year of attendance. An extension of time may be granted if the candidate requests it, the Faculty of Law supports it, and the School of Graduate Studies approves it.

**9** Two bound copies and one original unbound copy of the thesis must be deposited with the Administrative Assistant of the Graduate Program of the Faculty of Law.

**10** The thesis intensive program may be taken on a part-time basis over two years. A candidate must successfully complete the course requirements by May 31 of the first academic year of attendance and complete and present a satisfactory thesis to the Faculty by August 31 of the second academic year of attendance.

**Degree of Master of Studies in Law**

This program is designed for scholars, in disciplines related to law, who wish to acquire a knowledge of law in order to add a legal dimension to scholarship in their own discipline.

***Admission Requirements***

Applicants must hold at least a bachelor's degree and preferably a doctorate, from this or another recognized university, and must have demonstrated a high level of scholarship in a discipline related to law.

***Program Requirements***

**1** The candidate must be in full-time attendance for one session (eight months).

**2** The candidate must pursue a course of studies approved by the Faculty and by the SGS Admissions and Programs Committee.

**3** 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.

**4** The program will also include a research project of an interdisciplinary nature.

**Note:** In no circumstance will courses taken in an M.S.L. program be accredited for the J.D. program.

**Degree of Doctor of Juridical Science**

Candidates for this degree are accepted under the general regulations and the special regulations governing administration of degrees of Doctor of Juridical Science (S.J.D.).

***Admission Requirements***

A candidate for the degree of S.J.D. must be a Master of Laws of this or another recognized university or must possess equivalent qualifications.

***Program Requirements***

**1** The candidate must be in regular attendance at the Faculty of Law for at least one session (eight months) and must satisfy the Faculty of Law and the SGS Admissions and Programs Committee by advanced study in such field or fields of law as the Faculty shall determine.

**2** 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 on the same. The thesis will not be considered until the other prescribed examinations have been passed.

**3** The thesis must be completed within five years from the date of enrolment in the program.

**4** No candidate will be recommended for the degree until all examinations have been passed and the thesis has been approved by the Faculty of Law and is presented in such form as to be worthy of possible publication either in whole or in an abstract. Thesis publication is normally accomplished as described in the Ph.D. regulations in this calendar.

**Collaborative Programs**
Applicants to the LL.M. and S.J.D. programs may also apply to participate in one of the following collaborative programs:
Bioethics
Women's Studies
Each program provides an opportunity to do interdisciplinary work in another field at an advanced level. For details, consult the separate entries in this calendar.

**Courses of Instruction**
Students may select courses from those listed in the syllabus of the Faculty of Law. These are accepted for credit at the graduate level. For M.S.L. students, they may be courses from the first year of the J.D. program. Normally LL.M. and S.J.D. students will select courses only from the upper year course list. In addition, there is one course exclusively for graduate students:
LAW 1001H Alternative Approaches to Legal Scholarship/*Staff*

# Linguistics LIN

## Graduate Faculty

### Full Members

P. M. Bhatt, BA, MA, PhD/French
R. I. Binnick, BA, MA, PhD/Linguistics
E. N. Burstynsky, BA, MA, PhD/Linguistics
J. K. Chambers, BA, MA, PhD, DipEd/Linguistics
E. A. Cowper, BA, AM, PhD/Linguistics
B. E. Dresher, BA, PhD/Linguistics
D. M. James, BA, MA, PhD/Linguistics
A. Johns, BA, MA, PhD/Linguistics
P. Martin, IRAL BR, D IIIe C, DSCA/French
D. Massam, BA, MA, PhD/Linguistics
***(Chair)***
A. T. Pérez-Leroux, BA, MA, PhD/Spanish
P. A. Reich, BS, MS, PhD/Linguistics
K. D. Rice, BA, MA, PhD/Linguistics
Y. Roberge, BA, MA, PhD/French
H. E. Rogers, BA, MA, PhD/Linguistics
R. H. Smyth, BA, MSc, PhD/Linguistics
***(Coordinator of Graduate Studies)***
S. Tagliamonte, BA, MA, PhD/Linguistics

*Address:*
Sixth Floor, Robarts Library
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*Telephone:* (416) 978-4029
*Fax:* (416) 971-2688
*E-mail:* lingdept@chass.utoronto.ca
*Web:* www.chass.utoronto.ca/linguistics/

Course descriptions and other information are available each spring from the Coordinator of Graduate Studies.

### Degree of Master of Arts

Applicants must have at least a B+ average to be considered for admission. Applicants whose academic background does not include courses in introductory phonetics, phonology, morphology, and syntax are normally not admissible. If the applicant's academic background is limited to these courses, or the equivalent, consideration may be given for admission to a two-year program.

The M.A. program includes courses LIN 1121H, 1131H, 1181H, 1290Y, and JAL 1145H, or their equivalents, if not already taken, plus other requirements as determined by the Department. LIN 1290Y is taken in the final year of the degree. LIN 1121H, 1131H, and 1181H are normally taken in the first year. Students will be admitted to a one-year (normally four course) or two-year (normally eight course) program depending on their background.

All students must demonstrate an ability to read professionally in two languages other than English. The choice of languages 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.

### Degree of Doctor of Philosophy

Candidates will be considered for admission if they have completed the University of Toronto M.A. in linguistics, or its equivalent, with at least an A- average.

Students are normally required to complete three full-course equivalents during the first year. Generals papers in two areas of concentration must be completed by June 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.

Language requirements as outlined for the M.A. degree must be satisfied, and 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 of Instruction

Not all courses are offered in any given year. Students should consult the departmental brochure.

| | |
|---|---|
| JAL 1145H | Introduction to Field Methods |
| JAL 1155H | Language and Gender |
| JAL 1170H | Language Typology |
| JAL 1171Y | Dialectology |
| JIL 1140H | Semiotics |
| 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 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 1154H | Sociology of Language |
| LIN 1162H | Comparative-Historical LinguisticsI |
| LIN 1172H | Introduction to Cognitive Linguis-tics |
| LIN 1180H | History of Linguistic Thought |
| LIN 1181H | Introduction to Analysis and Argumentation |
| LIN 1182H | Language and Mind |
| LIN 1200Y | Current Issues in Linguistic Theory |
| LIN 1201H | Current Issues in Linguistic Theory |
| LIN 1221H | Advanced Phonology I |
| LIN 1222H | Advanced Phonology II |
| LIN 1231H | Advanced Syntax I |
| LIN 1232H | Advanced Syntax II |
| LIN 1245H | Advanced Semantics I |
| LIN 1246H | Advanced Semantics II |
| LIN 1251H | Variation Theory |
| LIN 1254H | Sociolinguistic Methods |
| LIN 1270H | Models of Language Behaviour |
| 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 2220H | Topics in Phonology |
| LIN 2230H | Topics in Syntax |
| LIN 2250H | Topics in Language Variation |
| LIN 2270H | Topics in Cognitive Science |

# Management MGT

## Graduate Faculty

### Full Members

T. L. Amburgey, BS, MA, PhD
J. H. Amernic, BSc, MBA, FCA
I. Averbakh, MSc, PhD
J. A. C. Baum, BA, MBA, PhD
M. K. Berkowitz, BS, MBA, PhD
O. Berman, BA, SM, PhD
R. M. Bird, BA, MA, PhD, FRSC
L. D. Booth, BSc, MA, MBA, DBA
S. F. Borins, BA, MPP, PhD
D. J. S. Brean, BA, BBA, MBA, MSc, PhD
L. J. Brooks, BCom, MBA, FCA, CA
J. L. Callen, BA, MBA, PhD
J. R. D'Cruz, BA, MBA, DBA
J.-C. Duan, BSc, MBA, MSc, PhD
R. Elitzur, BA, MBA, MPhil, PhD, CPA, CMA
L. Fertuck, BE, MBA PhD
D. W. Greeno, BCom, MBA, PhD
H. P. Gunz, BSc, DPhil, PhD
P. J. N. Halpern, BCom, MBA, PhD
S. A. Hawkins, BA, MS, PhD
I. J. Horstmann, BA, PhD
J. C. Hull, BA, MA, MA, PhD
D. E. Hyatt, BA, MA, PhD
R. M. P. Kan, BBA, MBA, PhD
D. Krass, BS, MSE, PhD
G. P. Latham, BA, MS, PhD, FRSC
Y. Li, BSc, MBA, PhD
R. L. Martin, AB, MBA
***(Chair)***
T. H. McCurdy, BA, MA, PhD
U. Menzefricke, MBA, DBA
J. M. Mintz, BA, MA, PhD
A. A. Mitchell, BA, PhD
S. Moorthy, BSc, MBA, MS, PhD
D. A. Ondrack, BCom, MBA, PhD
P. H. Pauly, MA, PhD
***(Coordinator of Graduate Studies)***
A. R. Reuber, BA, MSc, PhD, CIA
W. Rotenberg, BA, MBA, PhD
B. S. Silverman, AB, SM, MA, PhD
W. Smieliauskas, BS, MS, PhD
A. Stark, BA, AM, MSc, PhD
W. C. Strange, BA, MA PhD
D. Trefler, BA, MPh, PhD
A. Verma, BTech, MBA, PhD
J. Wei, BSc, MBA, PhD
A. K. P. Wensley, BA, PGCE, MA, MBA, PhD
A. D. White, BEng, MBA, PhD
G. Whyte, LLB, MBA, MPhil, MA, PhD
R. A. Winter, BSc, MA, PhD
J. L. Xie, BA, MBA, PhD
P. Zhang, BSc, MBA, MAcc, PhD

### Members Emeriti

J. H. G. Crispo, BCom, PhD
M. G. Evans, BSc, MScTech, MIA, PhD
M. J. Gordon, BA, MA, PhD, LLD, FRSC
H. F. Kolodny, BEng, MBA, DBA, PEng
A. E. Safarian, BA, PhD, FRSC
T. A. Wilson, BA, AM, PhD, FRSC

### Associate Members

K. Bates, BA, PhD
J. L. Berdahl, BA, MA, MA, PhD
A. Chan, BSc, MPhil, PhD
S. Cote, BSc, MA, PhD
K. Dahlin, MSc, PhD
T. Dewan, BSc, MBA, PhD
W. K. Dobson, BScN, MPA, SM, PhD
W. Hejazi, BA, MA, PhD
O.-K. Hope, BA, MBA
R. M. Jalland, BA, PhD
E. Kirzner, BA, MBA
L. Kramer, BBA, PhD
S. Law, BA, BS, MS, PhD
C. Loughlin, BSc, MA, PhD
A. Mackay, BSc, MA, PhD
S. McCracken, BCom, PhD, CA
N. Mehta, BTech, MS, MSIA, PhD
M. Moldoveanu, BSc, MSc, DBA
O. Norli, BBE, MSc, PhD
J. M. Oesch, BSc, BEd, MEd, MBA, PhD
M. Rindisbacher, BS, MSc, PhD
S. W. G. Robb, BA, MACC, PhD
M. Rotundo, BA, MIR, PhD
T. J. Rowley, BA, MBA, PhD
D. Segal, BA, PhD
M. Shi, BS, MA, MS, PhD
I. W. Skurnik, BS, MA, PhD.
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Ph.D.: (416) 978-4226
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## DEGREE OF MASTER OF BUSINESS ADMINISTRATION

The Joseph L. Rotman School of Management offers three Master of Business Administration (M.B.A.) degree programs:

**1** Full-time M.B.A.
**2** Part-time M.B.A.
**3** Executive M.B.A.

In addition, the School works collaboratively with the Faculties of Law, Applied Science and Engineering, Nursing, Arts and Science, and the School of Graduate Studies to offer the following combined programs:

**1** J.D./M.B.A. (Law)
**2** B.A.Sc./M.B.A. (Engineering)
**3** M.N./M.B.A. (Nursing)
**4** M.A./M.B.A. (Russian and East European Studies)

### Admission Requirements for the Full-time and Part-time M.B.A. Programs

M.B.A. candidates are advised to consult the Rotman M.B.A. Brochures for complete information on the graduate programs in Business Administration. Such information is available through the Office of Recruitment and Admissions at the Rotman School of Management or on our Web site at www.rotman.utoronto.ca.

**1** Candidates for the degree of Master of Business Administration are considered under the general regulations which specify a four-year University of Toronto bachelor's degree or equivalent. Applicants with a three-year bachelor's degree equivalent to the University of Toronto degree will also be considered for admission.

**2** Applicants must also obtain a satisfactory score on the Graduate Management Admissions Test (GMAT) administered by the Educational Testing Service (ETS) of Princeton, New Jersey (www.gmac.com). Test results are valid for five years.

**3** Candidates may proceed to the degree through either part-time or full-time study. The full-time program admits annually in September and the part-time program admits annually in May.

**4** Preferential consideration will be given to applicants to the full-time program who demonstrate a minimum of two years of full-time work experience. Preferential consideration will be given to applicants to the part-time program who demonstrate at least four years of full-time work experience.

**5** Applicants for the full-time M.B.A. program should apply by January 15 (early decision) and no later than April 30 (final deadline). Applicants for the part-time M.B.A. program should apply by February 1.

**6** Students enrolled in either the full-time or the part-time program may switch to the other program, with the permission of the Rotman School, after the completion of all 1000-level required courses.

### Program Requirements for Full-time M.B.A.

www.rotman.utoronto.ca/degree/torontomba/tmba.htm

**1** The program, beginning in September, extends for two academic years (16 months).

**2** The first year of the program consists of a set of required courses at the 1000-level. All students must complete the entire set of required courses. No advanced standing will be granted for previous academic work completed or professional designations earned.

**3** The second year of the program consists of 10 elective courses at the 2000-level.

**4** Required courses (1000-level courses) are weighted as one, two, or three modules. Three module courses are equivalent to 3 credit hours.

**5** Elective courses (2000-level courses) each have a weight of 3 credit hours. With the permission of the M.B.A. Program Director, 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 M.B.A. Program Director.

**6** All degree requirements must be completed within six years from the date of first enrolment in the program.

### Program Requirements for Part-time M.B.A.

www.rotman.utoronto.ca/degree/parttime/index.htm

**1** The program covers the equivalent of two academic years but is delivered over a three-year period.

**2** The program of study consists of a set of required courses at the 1000-level, and a second set of required courses and four elective courses at the 2000-level.

**3** In required courses taken at the 1000-level, a course will be composed of either one, two, or three modules. A module will be five weeks in duration 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.

**4** The required courses at the 2000-level comprise the equivalent of 18 credit hours and are made up of five 3 credit hour courses and two 1.5 credit hour courses. The elective courses at

the 2000-level comprise the equivalent of 12 credit hours.
**5** In all cases, the program of courses selected is subject to the approval of the Rotman School.
**6** All requirements for the degree must be completed within six years from the date of first enrolment in the M.B.A. program.

**Courses of Instruction**
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 1095H Multidisciplinary Special Topics
MGT 1102H Business Ethics
MGT 1210H Economics of Enterprise
MGT 1211H Economic Environment of Business
MGT 1221H Accounting I
MGT 1222H Accounting II
MGT 1241H Operations Management
MGT 1260H Leadership and the Management of Teams
MGT 1272H Management Information Systems
MGT 1301H Fundamentals of Strategic Management
MGT 1330H Business Finance
MGT 1350H Marketing
MGT 1362H Administrative Theory
MGT 1382H Statistics for Management

***2000-Level***

MGT 2000H Research Project
MGT 2001H Research Project (quarter course)
MGT 2002Y Research Project
MGT 2003H Research Project
MGT 2005H Advanced Concepts in Strategic Management
MGT 2010H Business-Government Relations
MGT 2011H International Business
MGT 2012H Entrepreneurship and the Management of the Smaller Company
MGT 2013H Advanced Business Ethics
MGT 2014H The Legal Environment of Professions and Corporations
MGT 2015H Special Topics in General Management
MGT 2115H Special Topics in Business Economics
MGT 2122H Business and the Regulatory Environment
MGT 2127H Economic Environment of International Business
MGT 2128H Economics of Housing and Real Estate Markets
MGT 2129H Forecasting Models and Econometric Methods
MGT 2200H Management Accounting
MGT 2202H Planning and Control Systems
MGT 2203H Financial Accounting
MGT 2204H Canadian Tax Practice
MGT 2215H Special Topics in Accounting
MGT 2300H Corporate Financing
MGT 2301H Financial Management
MGT 2302H Security Analysis and Portfolio Management
MGT 2303H Financial Management in the Public Sector
MGT 2304H Financial Institutions and Capital Markets
MGT 2305H International Financial Management
MGT 2306H Options and Futures Markets
MGT 2307H Advanced Derivatives
MGT 2308H Risk Management and Financial Engineering
MGT 2309H Mergers and Acquisition
MGT 2315H Special Topics in Finance
MGT 2405H Operations Planning and Control
MGT 2406H Operations Management Strategy
MGT 2408H Automated Manufacturing Systems
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 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 2515H Special Topics in Marketing
MGT 2601H Organization Design
MGT 2604H Organization Change and Development
MGT 2605H International Organizational Behaviour

| | |
|---|---|
| MGT 2606H | Designing New Work Organizations |
| MGT 2607H | Managerial Negotiations |
| MGT 2608H | Management of the Personnel Function |
| MGT 2609H | Management of Human Resources |
| MGT 2610H | Industrial Relations |
| MGT 2611H | Legal Aspects of Industrial Relations |
| MGT 2615H | Special Topics in Organizational Behaviour |
| MGT 2703H | Technology of Information Systems |
| MGT 2704H | Management of Information Systems |
| MGT 2705H | Information Systems Design |
| MGT 2706H | Electronic Commerce and the Internet |
| MGT 2715H | Special Topics in Information Systems |
| MGT 2800H | Management Science |
| MGT 2801H | Management Decision Analysis |
| MGT 2802H | Computer Modelling and Simulation |
| MGT 2804H | Multivariate Methods for Management |
| MGT 2915H | Multidisciplinary Special Topics |

## JURIS DOCTOR/MASTER OF BUSINESS ADMINISTRATION PROGRAM

www.rotman.utoronto.ca/degree/jdmba.htm

The J.D./M.B.A. Program is a four-year combined degree offered by the Faculty of Law and the Rotman School of Management at the University of Toronto. The program is for students who wish to combine graduate training in management with a degree in law.

At the completion of the four-year integrated program, the successful student is awarded both the Juris Doctor and the Master of Business Administration degrees, which, if taken separately, would require five years of study.

### Admission Requirements

Students applying to the J.D./M.B.A. program must be admitted to both the Faculty of Law and the Rotman School of Management. As such, candidates must satisfy the admission requirements of both faculties independently, and all applicants must complete the Law School Admission Test (LSAT) and the Graduate Management Admission Test (GMAT). A separate application to each Faculty must also be submitted.

Rotman admission criteria are the same as those for the Full-time M.B.A. program, with the following exception: although work experience is not a requirement, it is important to note that the average M.B.A. student has five years' experience. It is expected that J.D./M.B.A. applicants' academic and personal background reflects diversity and life experience.

Students who have completed the first year of either the J.D. or M.B.A. program may apply for admission to the combined J.D./M.B.A. Program by meeting the normal application and admission requirements for the other faculty and notifying their faculty registrar.

Since enrolment in the J.D./M.B.A. Program is limited, candidates are urged to file both applications by the Faculty of Law deadline and to arrange to complete their applications as soon as possible thereafter.

### Program Requirements

**1** Students in the combined program spend the first year enrolled in the first year of the J.D. program, and must obtain at least a B standing to continue in the program.

**2** Students spend the second year of the combined program enrolled in the first year of the M.B.A. program and must obtain at least a B+ standing upon the completion of courses to be eligible to continue in the program.

**3** During the final two years of the program, students take courses drawn from both Law and Management. Students must complete 6 courses at the Rotman School of Management and 45 credits at the Faculty of Law (in addition to the J.D. requirements to complete a Moot, a Perspective course, and the Extended Writing Requirement).

## BACHELOR OF APPLIED SCIENCE/MASTER OF BUSINESS ADMINISTRATION PROGRAM

www.rotman.utoronto.ca/skoll/index.htm

The Jeffrey Skoll B.A.Sc./M.B.A. Program, established by the Faculty of Applied Science and Engineering and the Rotman School of Management, provides a fast track for gifted students to earn their bachelor's degree in engineering, a management internship, and an M.B.A. in five years and eight months.

### Admission Requirements

Students in third year in the Faculty of Applied Science and Engineering (all programs) are eligible to apply for the combined Engineering/ M.B.A. degree program. All admission documents required by the Rotman School of Management (including the GMAT results) should be submitted to the Office of Admissions, Faculty of Applied Science and Engineering, by October 15 of the fall session, third

year (or while on PEY immediately following third year).

Candidates for the combined program must demonstrate a minimum of a B+ (77%) average in each of the following four sessions: 1W, 2F, 2W, 3F. (Students with one session slightly below 77% who meet all other entrance parameters should still apply.)

**Program Requirements**

**1** Students in the combined program spend the first four years in the Faculty of Applied Science and Engineering (and apply to the program during the third year of undergraduate study).
**2** Students spend the fifth year of the combined program enrolled in the first year of the M.B.A. program and must meet the promotion standards applicable to Full-time M.B.A. students.
**3** During the sixth year of the program, students must complete seven 2000-level courses at the Rotman School of Management, two Engineering electives, and complete a Business/Engineering Project.
**4** All students are required to complete a Management Experience Year (MEY). Consult the Faculty of Applied Science and Engineering for detailed MEY requirements.

**EXECUTIVE MASTER OF BUSINESS ADMINISTRATION PROGRAM**
www.rotmanemba.ca

The M.B.A. for Executives is offered on Fridays and Saturdays every other week plus four full-time residential modules and study periods. The program consists of 11 half-courses and 1 quarter-course at the 1000 level and 12 half-courses and 1 quarter-course at the 2000 level as listed below. The total duration of the executive M.B.A. program is 12 months. Admission to the program is normally restricted to persons with significant professional work or managerial experience. Note that special program fees apply for this program. One or more of the course(s) may be substituted by course(s) offered in the regular M.B.A. program at the discretion of the Program Director.

To learn more about the Rotman M.B.A. for Executives, visit our Web site www.rotmanemba.ca or call 416-978-4441.

**Global Executive Master of Business Administration Program**
www.rotmangemba.ca

The Global Executive M.B.A. program is an alternative second session option to the Executive M.B.A. program offered by the Joseph L. Rotman School of Management. Students are admitted upon completion of the first session of the Executive M.B.A. at Rotman or an approved program at one of the partner institutions. All applicants entering the program must meet the normal application and admission requirements. Consideration will be given to applicants who have completed the equivalent of the first session of Executive M.B.A. studies at a recognized institution.

The Global Executive M.B.A. is for executives who want to participate in an internationally-focused business program. The intensive cross-cultural curriculum provides participants with a deep understanding of global business, and it provides the knowledge and tools needed to successfully develop and implement global strategies. This unique nine-month program is modular in format with courses taught during three residential modules. Study modules are held in Toronto, in Asia, and in Europe. During the first module, participants are placed in cross-cultural learning teams that work together between modules using Web-based communication tools.

To learn more about the Rotman Global M.B.A. for Executives, visit our Web site www.rotmanemba.ca or call 416-978-4441.

**Courses of Instruction**
Please note the following notations regarding course numbering:

| 1000-level, Second digit/ 2000-level, Third digit | Notation |
|---|---|
| 3 and 6 | one half-course |
| 4 | one quarter-course |

The Department should be consulted each session regarding course offerings.

***The Rotman School of Management is currently reviewing the Executive M.B.A. Program curriculum and may be making changes, designed to strengthen and integrate the program, during the next academic year. These changes will affect both course offerings and the program as a whole. Therefore, the information in this calendar entry is provisional and may change as a result of these improvements. Consult the Rotman School.***

***First Session***

MGT 1306H Fundamentals of Strategic Management
MGT 1316H Economics of Enterprise
MGT 1317H Economic Environment of Business

MGT1326H Accounting for Management I
MGT1327H Accounting for Management II
MGT1336H Financial Management
MGT1346H Operations Management
MGT1356H Marketing Management
MGT1366H Organizational Behaviour
MGT1367H Managerial Skills Development I
MGT1386H Quantitative Reasoning for Management
MGT1407H Topics in Strategic Management I

***Second Session – Executive M.B.A. Program***
MGT2031H Industry Analysis Project
MGT2033H Advanced Concepts in Strategic Management
MGT2034H Business and Government Relations
MGT2035H International Business
MGT2036H Business Law
MGT2041H Topics in Strategic Management II
MGT2042H Business Ethics
MGT2130H Management Information Systems
MGT2133H Capstone Project
MGT2331H Capital Markets and Corporate Finance
MGT2531H Strategic Market Planning
MGT2631H Human Resource Management and Organizational Change
MGT2641H Managerial Skills Development II

***Second Session – Global Executive M.B.A. Program***
MGT2030H Global Strategic Management
MGT2037H International Business
MGT2049H Business Ethics
MGT2063H Special Topics in Strategic Management
MGT2064H Business-Government Relations
MGT2065H International Strategy Project
MGT2332H International Finance and Global Capital Markets
MGT2532H Global Strategic Marketing
MGT2632H Management of Change in Organizations
MGT2633H Managerial Skills Development
MGT2715H Special Topics in Information Systems: Growth Project
MGT2730H Management of Information Technology and E-Commerce in an International Setting

## DEGREE OF MASTER OF MANAGEMENT AND PROFESSIONAL ACCOUNTING
(formerly the M.B.A. in Professional Accounting)

*Address*:
Room K108, Kaneff Centre
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Canada L5L 1C6

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The M.M.P.A. 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 program covers the core courses of the Rotman M.B.A. program and offers specialization in accounting.

The 27-month program covers 7 terms of full-time study, including 5 academic study terms and 2 co-op work placement terms in accounting- or finance-related environments. The curriculum is organized to provide an excellent understanding of:
**1** the functions and needs of management,
**2** accounting, finance, auditing, and tax,
**3** essential professional subjects,
**4** management skills, and
**5** professional capabilities.

Students from any undergraduate background may apply. Advanced standing may be granted. Special tuition conditions apply for this program. Please see the Rotman School brochure on the Master of Management and Professional Accounting program for further details.

### Admission Requirements
The admission requirements for the M.M.P.A. are essentially the same as those for the School's M.B.A. program except as noted in the program brochure.

### Program Requirements
**1** Except for candidates granted advanced standing on admission, the program covers the equivalent of seven terms.
**2** The program of study consists of all the courses set out below.
**3** All requirements for the degree must be completed within six years from the date of first enrolment.
**4** All courses are composed of one, two, or three modules. A module is five weeks in

duration and the course weight is equal to the number of modules. For example a course with three modules will have a weight of three credit hours.

**Courses of Instruction**
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) |
| 3 | three modules |

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) Economics of Enterprise
MGT 1211H(2) Economic Environment of Business
MGT 1221H(2) Accounting I
MGT 1222H(2) Accounting II
MGT 1241H(2) Operations Management
MGT 1260H(2) Managerial Skills Development
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) Administrative Theory
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 2090H(0) Accounting Work-Term Course II
MGT 2205H(3) Advanced Financial Accounting
MGT 2206H(2) Taxation I
MGT 2207H(2) Taxation II
MGT 2208H(1) Taxation III
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

The final term of the program will include a professional integrating experience consisting of a four-week period in which students will complete one or more of the following:
**1** attend the professional school of a professional accounting body, or
**2** write professional accounting examinations, or
**3** complete a consulting or work-term project.

**DEGREE OF DOCTOR OF PHILOSOPHY**
The Rotman School offers the Ph.D. degree in Management. At present, students may specialize in one of six fields: accounting, finance, human resource management and organizational behaviour, marketing, operations management, and strategic management. Other areas are available for selection as the minor field in Management, including international business.

**Admission Requirements**
**1** Candidates for the degree of Doctor of Philosophy are admitted under the general regulations.
**2** Since Management is a multidisciplinary field, candidates are expected to acquire a breadth of knowledge across each of these disciplines, as well as some depth in the cognate disciplines relevant to their field of specialization. Sometimes these requirements can be satisfied prior to entry to the Ph.D. program (for example, through an M.B.A. degree 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 Ph.D. program, then the candidate is expected to complete the program in four years. If additional course work is required, then the candidate may need to spend an additional year in the program.
**3** The applicant should have three individuals submit letters of reference to the faculty.
**4** The applicant should have official scores on the GMAT or GRE submitted to the faculty.
**5** The applicant should submit a letter to the faculty describing her/his interests and reasons for seeking doctoral education.

**Program Requirements**

**1** Candidates should spend the first two years of the program on campus, registered as full time students. During this time, they are normally expected to complete their course work. At the end of this period, they are expected to take the comprehensive examination.

**2** The program consists of a major field and two minor fields of study.

**3** A minimum of two full courses (four half-courses) will comprise the major field. These will normally be taken from the Management courses at the 3000-level, but additional courses from other departments may be required.

**4** The two minor fields are usually taken in cognate departments. Each minor field comprises at least one full course (two half-courses).

**5** In order to gain exposure to the breadth of the M.B.A. program, three courses from the following list or their equivalents are required:

MGT 1221H Accounting I **or** MGT 1222H Accounting II
MGT 1241H Operations Management
MGT 1301H Fundamentals of Strategic Management
MGT 1330H Business Finance
MGT 1350H Marketing
MGT 1362H Administrative Theory

The three courses are to be chosen in consultation with the Area Ph.D. 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.

**6** A candidate is expected to be qualified in the three basic disciplines essential to the study of Management: economics, behavioural science, and quantitative analysis.

**7** Upon completion of the courses in the major and minor fields, the candidate is expected to pass comprehensive examinations in the major field.

**8** A thesis embodying the results of original investigation must be submitted and defended at a final oral examination in accordance with the regulations of the School of Graduate Studies.

The Department should be consulted each session as to course offerings.

**Courses normally restricted to Ph.D. 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 Operations Planning and Control II
MGT 3046H Advanced Topics in Operations Management: Services and Logistics
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 (CR/NCR)
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

**MANAGEMENT AND ECONOMICS**
**Collaborative Ph.D. Program**

Consult separate entry in this calendar.

(CR/NCR) Credit/No Credit

# Management and Economics (Collaborative Program)

**Program Committee**
P. H. Pauly, MA, PhD/Management
A. Melino, BA, PhD/Economics

**Collaborative Ph.D. Program in Management and Economics**
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:
**1** developing a basic understanding in one of the core areas of management (accounting, economics, finance, marketing, operations management, organizational behaviour).
**2** developing an in-depth understanding of economics and econometrics (Ph.D.-level work); and
**3** carrying out Ph.D.-level work in one of the areas of management.

At present, only finance is available in the collaborative program.

Admission to the program is by permission of the graduate coordinators in both Economics and Management. Prospective candidates should apply *either* to the Department of Economics *or* the Rotman School of Management; however, they must meet the Ph.D. admission requirements of the home department.

# Materials Science and Engineering MMS

## Graduate Faculty

### Full Members

S. A. Argyropoulos, MEng, PhD, PEng
G. Bendzsak, BSc, MSc, PhD, PEng
T. W. Coyle, BSc, BA, ScD
J. E. Davies, BSc, PhD
U. Erb, DipIng
M. D. Grynpas, MSc, PhD
D. W. Kirk, BASc, MASc, PhD, PEng
J. D. Lavers, BSc, MASc, PhD, FIEEE, PEng
Z.-H. Lu, BSc, MSc, PhD
A. McLean, BSc, PhD, PEng
T. H. North, BSc, MSc, PhD
V. G. Papangelakis, DipEng, MEng, PhD
D. D. Perovic, BASc, MASc, PhD
***(Chair)***
R. M. Pilliar, BASc, PhD, PEng
H. E. Ruda, BSc, PhD
I. D. Sommerville, BSc, PhD, ARCS
S. J. Thorpe, BASc, MASc, PhD
T. A. Utigard, BSc, MASc, PhD, PEng
Z. Wang, BEng, MSc, PhD
***(Coordinator of Graduate Studies)***

### Members Emeriti

K. T. Aust, BASc, MASc, PhD
B. Cox, BA, MA, PhD
S. N. Flengas, BSc, PhD, DSc
U. M. Franklin, PhD, LLD, DSc, DDN, CC, FRSC, University Professor Emeritus
B. Ramaswami, BSc, MA, PhD
J. W. Rutter, MA, PhD
J. M. Toguri, BASc, MASc, PhD, FRSC

### Associate Members

G. E. Agar, BASc, ScD
R. A. Bergman, BASc, MASc, PEng
G. Palumbo, BASc, MASc, PhD

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Degree candidates are accepted under the general regulations. In addition, the Department requires a TOEFL (Test of English as a Foreign Language) score of at least 580 from students whose primary language is not English. The TOEFL must include the TWE (Test of Written English), and students must normally obtain a minimum score of 4.

Graduate courses and research opportunities are offered to qualified candidates 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.

### Degree of Master of Engineering

Candidates are accepted under the general regulations.

A candidate will enrol in a field of study in consultation with a designated professor who will act as supervisor throughout the candidate's program. For students with adequate undergraduate preparation, the normal program will include 10 half-courses; a project may be substituted for 3 half-courses. The project must be presented at an oral examination.

### Degree of Master of Applied Science

Candidates for this degree are accepted under the general regulations. The program of study will normally include four half-courses, including the M.A.Sc. Graduate Research Seminar, and a thesis. The course work normally selected will include the departmental seminar, which is a half-year course, and three half-courses, one of which would normally be taken inside the Department. The required thesis is based upon research work carried out in the Department in the fields of chemical or physical metallurgy or materials science. The thesis must be presented at an oral examination.

### Degree of Doctor of Philosophy

Candidates for this degree will normally be expected to have completed the master's program before entering the Ph.D. program. The program of study normally will include four half-courses,

including the Ph.D. Graduate Research Seminar, and a thesis. The major subject in a program will be chemical metallurgy, physical metallurgy, or materials science. One of the three half-courses would normally be taken inside the Department. The required thesis is based upon research work carried out in the Department in the fields of chemical or physical metallurgy or materials science.

Within 12 months of initial enrolment in the Ph.D. program, all candidates must pass a general qualifying examination based on the course material taken within the Department and on background knowledge in the candidates' field of specialization.

***Program Transfer***

Very strong M.A.Sc. candidates may apply to transfer to the Ph.D. program after completing one year of the M.A.Sc. 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 Ph.D. Graduate Research Seminar in addition to the four courses completed in the M.A.Sc. program.

**Environmental Engineering (Collaborative Program)**

Several graduate departments, including Materials Science and Engineering, participate in the collaborative program in Environmental Engineering at the University of Toronto. Consult the Environmental Engineering entry in this calendar for details.

**Integrated Manufacturing (Collaborative Program)**

Several graduate departments, including Materials Science and Engineering, participate in the collaborative graduate program in Integrated Manufacturing. In addition to the M.Eng. degree obtained in their graduate unit, and upon successful completion of all requirements, students will receive the notation "Completed Collaborative Program in Integrated Manufacturing" on their transcript. Consult the Integrated Manufacturing entry in this calendar for details.

**Courses of Instruction**

A schedule is available from the Coordinator of Graduate Studies at the beginning of the fall term 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***

MMS 1000H Graduate Research Seminar M.A.Sc./*Staff*
MMS 1013H Growth and Characterization of Semiconductors/*H. E. Ruda*
MMS 1014H Interfacial Phenomena/*Staff*
MMS 1015H Mechanical Properties of Solids I/ *Z. Wang*
MMS 1016H Mechanical Properties of Solids II/*Z. Wang*
MMS 1018H Phase Transformations/*Staff*
MMS 1020H Environmentally Induced Cracking/*Staff*
MMS 1022H Special Topics in Materials Science I/*Staff*
MMS 1023H Special Topics in Materials Science II/*Staff*
MMS 1024H Interface and Nanophase Engineering/*Staff*
MMS 1025H Non-Crystalline Solids/*S. J. Thorpe*
MMS 1026H Analytical Electron Microscopy/ *D. D. Perovic*
MMS 1027H Finite Element Analysis and Design of Metallurgical Systems/ *G. Bendzsak*
MMS 1028H Advanced Materials Science/ *Z. H. Lu*
MMS 2000H Graduate Research Seminar Ph.D./*Staff*
MMS 2013H Materials and Manufacturing/*Staff*
JMZ 1704H Polymer Process Engineering/ *Staff*
JTC 1020H Ceramics/*T. W. Coyle*
JTC 1331H Biomaterials Science/*Staff*

***Metallurgy***

MMS 1000H Graduate Research Seminar M.A.Sc./*Staff*
MMS 2000H Graduate Research Seminar Ph.D./*Staff*
MMS 2006H Molten Salt Electrolysis/*T. A. Utigard*
MMS 2007H Iron and Steel Making—selected topics/*A. McLean*
MMS 2008H High Temperature Metallurgical Fluids/*T. A. Utigard*
MMS 2014H Non-Ferrous Extraction Metallurgy/*J. M. Toguri*

MMS 2017H Welding Metallurgy/*T. H. North*
MMS 2018H Welding Processes and Testing/ *Staff*
MMS 2020H Mathematical Modelling in Materials Processing/*S. A. Argyropoulos*
MMS 2022H Special Topics in Metallurgy I/ *Staff*
MMS 2023H Special Topics in Metallurgy II/ *Staff*

# Mathematical Finance MMF

## Graduate Faculty

### Full Members

C. Albanese, BSc, PhD
R. Almgren, BS, MS, PhD
***(Director)***
G. J. Anderson, BA, MSc, PhD
J. S. Bland, BSc, MSc, PhD
L. D. Booth, BSc, MA, MBA, DBA
S. Broverman, BSc, MSc, PhD, ASA
M. W. Carter, BM, MMath, PhD
D. E. Cormack, BASc, MASc, PhD, FCIC, PEng
A. Feuerverger, BSc, PhD
J. Quastel, BSc, MS, PhD
L. A. Seco, PhD

### Associate Members

G. Campolieti, PhD
D. Finnie, BA, MA, MBA
A. M. Levin, PhD
H. D. Mausser, BMath, MASc, PhD
D. Rosen, BASc, MASc, PhD

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*Web:* algolab.newcollege.utoronto.ca

The master's degree program in Mathematical Finance was developed to respond to the rapidly changing demands in the financial services industry. The program is multidisciplinary, drawing upon the expertise of the Faculties of Applied Science and Engineering, Arts and Science, and Management. As a fully integrated course of study, it is a computationally intensive program designed to provide a strong academic education within the practical framework of applied finance. Note that special tuition conditions apply for this program.

More information about the program and courses is available on the Web site or from the Program Director.

## Degree of Master of Mathematical Finance

### *Admission Requirements*

**1** Candidates will be admitted under the general regulations of the School of Graduate Studies. To be considered for admission, 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 standing in the final two years. In addition, when proof of English language facility is acquired for admission, candidates must attain a score of at least 580/237 on the TOEFL with 5.0 on the TWE.
**2** Applicants must also show evidence of strong mathematical ability. Appropriate workplace experience will be considered in lieu of formal education.
**3** Admission to the program is competitive. Those accepted 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. In all cases, candidates must satisfy the admissions committee of their ability to do rigorous quantitative analysis at an advanced level.
**4** The broad background required for this program makes it likely that many strong applicants will not possess all the background requirements. 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 approximately 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 directed to the Program Director.

### *Program Requirements*

**1** The program of study begins in mid-August and will normally extend over twelve consecutive months during which the student is full-time.
**2** 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 appropriate job, it is expected that the student will return to this job for the internship. In all cases, the Director must approve the placement.
**3** Students will proceed through the program as a group, following a common course of

study. The course of study will be fully integrated and computer-laboratory intensive. Course projects and assignments 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.

**4** In addition to successful completion of all courses listed below, a course in Practical Risk Management must be completed in order to qualify for the degree.

**Courses of Instruction**

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, or four 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

| | |
|---|---|
| MMF 1900Y | Internship (CR/NCR) |
| MMF 1912H | Asset Liability Management |
| MMF 1913H | Information Technology |
| MMF 1920H | Investment and Finance |
| MMF 1921H | Operations Research |
| MMF 1922H | Statistics for Finance I |
| MMF 1923H | Financial Markets and Corporate Policy |
| MMF 1924H | Mathematical Finance II |
| MMF 1925H | Statistics for Finance II |
| MMF 1926H | Workshop in Mathematical Finance |
| MMF 1927H | Workshop in Mathematical Finance |
| MMF 1941Y° | Stochastic Analysis |
| MMF 1942Y | Mathematical Finance I |
| MMF 1943Y° | Communication |
| MMF 2000Y° | Risk Management by Example |
| MMF 2021H | Numerical Methods for Finance |

(CR/NCR ) Credit/No Credit
°Courses which may continue over a program

# Mathematics MAT

## Graduate Faculty

### Full Members

C. Albanese, BSc, PhD
R. Almgren, BS, MS, PhD
D. F. Andrews, BSc, MSc, PhD, Fellow ASA
J. G. Arthur, BSc, MSc, PhD, FRS, FRSC, University Professor
E. J. Barbeau, BA, MA, PhD
E. Bierstone, BSc, MA, PhD, FRSC
J. S. Bland, BSc, MSc, PhD
***(Chair)***
T. Bloom, BSc, MA, PhD, FRSC
R.-O. Buchweitz, Dipl, DrRerMat
M.-D. Choi, BSc, MSc, PhD, FRSC
J. Colliander, BSc, PhD
C. Consani, BS, MS, PhD
S. A. Cook, BS, AM, PhD, FRSC, FRS, University Professor
A. del Junco, BSc, MSc, PhD
N. A. Derzko, BSc, PhD
G. A. Elliott, BSc, MSc, PhD, FRSC
J. B. Friedlander, BSc, MA, PhD, FRSC
I. R. Graham, BSc, PhD
P. C. Greiner, BSc, MA, PhD, FRSC
V. Ivrii, PhD, DSc, FRSC
L.C. Jeffrey, AB, MA, PhD
V. Jurdjevic, BS, MS, PhD
M. Kapranov, MSc, PhD, Mossman Chair
B. Khesin, MSc, PhD
A. Khovanskii, PhD, DSc
H. Kim, BSc, PhD
J. W. Lorimer, BSc, MSc, PhD
M. Lyubich, MSc, PhD
R. McCann, BS, PhD
E. Meinrenken, Dipl, PhD
E. Mendelsohn, BSc, MSc, PhD
P. Milman, MA, PhD, FRSC
F. Murnaghan, BSc, MSc, PhD
V. Murty, BSc, PhD, FRSC
A. Nabutovsky, MSc, PhD
A. Nachman, BSc, MA, PhD
M. Pugh, BA, PhD
J. Quastel, BSc, MS, PhD
J. Repka, BSc, PhD
J. S. Rosenthal, BSc, MA, PhD
P. Rosenthal, BS, MA, PhD
J. P. Scherk, BSc, MSc, DPhil
L. A. Seco, PhD
P. Selick, BSc, MSc, PhD
Y. Semenov, MSc, PhD
R. W. Sharpe, BSc, MA, PhD
I. M. Sigal, BA, PhD, FRSC, University Professor, Norman Stuart Robertson Chair in Applied Mathematics
C. Sulem, MSc, DrD'Etat
F. D. Tall, AB, PhD
S. M. Tanny, BSc, PhD
S. Todorcevic, MSc, PhD
W. A. R. Weiss, BSc, MSc, PhD
M. Yampolsky, MSc, PhD

### Members Emeriti

M. A. Akcoglu, MSc, PhD, FRSC
F. V. Atkinson, BA, MA, DPhil, FRSC
J. H. H. Chalk, BSc, PhD, FRSC
D. A. Clarke, BA, MA, PhD
H. S. M. Coxeter, BA, PhD, DSc, LLD, DMath, FRS, FRSC
C. Davis, BS, MA, PhD
E. W. Ellers, DrRerNat
D. A. S. Fraser, BA, MA, MA, PhD, DMath, FRSC
L. T. Gardner, BA, MA, PhD
I. Halperin, BA, MA, PhD, FRSC
J. S. Halperin, BSc, MSc, PhD, FRSC
W. P. E. Haque, MA, MS, PhD
M. P. Heble, MSc, PhD
I. Kupka, MSc, PhD, DrD'Etat
A. B. Lehman, MSc, PhD
D. Masson, BSc, MSc, PhD
J. McCool, BSc, PhD
K. Murasugi, BSc, MA, DSc, FRSC
E. Prugovecki, MSc, PhD
K. B. Ranger, BSc, PhD, FRSC
P. G. Rooney, BSc, PhD, FRSC
D. K. Sen, MSc, DSc
F. A. Sherk, BA, MSc, PhD
S. H. Smith, BSc, PhD

### Associate Members

G. Maschler, MSc, PhD
R. Rotman, BA, PhD

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*Web:* www.math.toronto.edu/graduate

The Department of Mathematics offers opportunities for research 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*.

**Degree of Master of Science**

Candidates are accepted under the general regulations. Candidates must also show evidence of an excellent academic background and mathematical ability.

Candidates are accepted into a 12-month, 16-month, or 24-month program for the degree of Master of Science. It is also possible to earn the M.Sc. degree through part-time studies.

Candidates for the 12-month program are required either (a) to take and pass three approved full-year courses and to take a supervised research project for M.Sc. students (MAT 4000H), or its equivalent, or (b) to take and pass two approved full-year courses 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 course of the program. Students may, with approval, take courses outside the Department as part of a coherent program.

Candidates 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.

Candidates who study part-time for the M.Sc. must (at a minimum) satisfy the requirements of the 12-month program.

**Degree of Doctor of Philosophy**

Candidates for this degree must normally have a master's degree from a recognized university. However, exceptionally strong B.Sc. students may apply for direct admission to the Ph.D. program. In all cases candidates 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.

The Ph.D. program normally takes four years of full-time study to complete. Candidates must complete at least six half-courses (or the equivalent combination of half-year and full-year courses). Candidates are required to 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 term of Ph.D. 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. Candidates 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. Candidates are also required to pass a specialist oral examination in their particular field of study before embarking on serious thesis research. The main requirement of the degree is an acceptable thesis. This will embody original research of a standard that warrants publication in the research literature.

**Courses of Instruction**

The Department offers a selection of courses each year chosen from the following list with the possibility of further additions. The core courses, MAT 1000Y, 1001H, 1100Y, 1300Y, will be offered each year; the complete list of courses will be available from the Department in May. In addition, it may be possible for a student to arrange to take one of the listed courses as an individual reading course. Students should consult the office of the Coordinator at the start of the academic year.

Ph.D. students are expected to attend and contribute to seminars in the research areas.

***Mathematics***

| | |
|---|---|
| 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 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
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 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 1341H Differentiable Manifolds and Applications
MAT 1342H Introduction to Differential Geometry
MAT 1343H Riemannian Manifolds
MAT 1344H Symplectic Geometry
MAT 1346H Homotopy Theory
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 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 1855H | Mathematical Economics |
| MAT 1856H | Mathematical Finance |
| MAT 1880H | Case Studies in Applied Mathematics |
| MAT 2000Y | Readings in Theoretical Mathematics |
| MAT 2001H | Readings in Theoretical Mathematics I |
| MAT 2002H | Readings in Theoretical Mathematics II |

***M.Sc. Project***

| | |
|---|---|
| MAT 4000H | Supervised Research Project |

# Mechanical and Industrial Engineering MIE

## Graduate Faculty

### Full Members

N. Ashgriz, BSc, MSc, PhD
R. Ben Mrad, BS, MSc, PhD
B. Benhabib, BSc, MSc, PhD, PEng
M. W. Carter, BM, MMath, PhD
S. Chandra, BTech, MS, PhD
L. Chen, BS, MS, PhD
M. H. Chignell, BSc, MSc, PhD
W. L. Cleghorn, BASc, MASc, PhD, PEng
C. R. Ethier, BSc, MMath, SM, PhD, PEng, Canada Research Chair
M. S. Fox, BSc, PhD, FAAAI, FCIAR, NSERC Industrial Research Chair in Enterprise Integration
A. A. Goldenberg, BSc, MSc, PhD, FIEEE, PEng
M. L. Hair, BSc, PhD
D. F. James, BSc, MA, MS, PhD, PEng
A. K. S. Jardine, BSc, MSc, PhD, MIMechE, MIEE, PEng
H. F. Kolodny, BEng, MBA, DBA, PEng
D. Li, BASc, MSc, PhD
V. Makis, MSc, PhD
A. Mandelis, BSc, MA, MSc, PhD, FAPS
S. McCahan, BS, MS, PhD
D. McCammond, BSc, PhD, FCSME, PEng
S. A. Meguid, BME, MSc, PhD, Wallace G. Chalmers Chair of Engineering Design
P. Milgram, BASc, MSEE, PhD, PEng
J. K. Mills, BSc, MASc, PhD, PEng
M. Milner, BSc, PhD
J. Mostaghimi, BSc, MSc, PhD, PEng
S. Naumann, BSc, MSc, PhD
M. Ojha, BSc, MSc, PhD
J. C. Paradi, BASc, MASc, PhD, FCAE, PEng, SSHRC/NSERC Industrial Research Chair in the Management of Technological Change
M. Paraschivoiu, BEng, MASc, PhD
C. B. Park, BS, MS, PhD, PEng
J. S. Rogers, BSc, MS, PhD, PEng
C. D. Sadleir, BSc, MASc, PhD, PEng
L. H. Shu, BS, SM, PhD
A. N. Sinclair, BASc, MSE, PhD, PEng
***(Coordinator of Graduate Studies)***
J. K. Spelt, BASc, MASc, ME, PhD, PEng
P. E. Sullivan, BSME, MSME, PhD
M. J. Thomson, BEng, MSc, PhD
I. B. Turksen, BSc, MSc, PhD, PEng
W. H. Vanderburg, BASc, MASc, PhD, PEng
R. D. Venter, BSc, MEng, PhD, PEng, FCSME, Clarice Chalmers Chair of Engineering Design
K. J. Vicente, BASc, MS, PhD
J. S. Wallace, BSME, BA, MSE, PhD, PEng
***(Chair)***
C. A. Ward, BS, PhD, PEng
J. W. Zu, BEng, MEng, PhD, PEng

### Members Emeriti

A. H. Abdelmessih, BME, MS, PhD, PEng
D. L. Allen, BSc, BE, MASc, PhD, FCSME, FEIC, PEng
W. D. Baines, BSc, MS, PhD, PEng
I. G. Currie, BSc, MASc, PhD, FCSME, PEng
R. G. Fenton, DipIng, PhD, PEng
P. J. Foley, MA, FRSA, FHFAC
F. C. Hooper, BASc, DIC, FEIC, PEng
J. F. Keffer, BASc, MASc, PhD, PEng
H. J. Leutheusser, DipIng, MASc, PhD, PEng
A. W. Neumann, BA, DrRerNat
M. J. M. Posner, BASc, PhD, PEng
F. P. J. Rimrott, DipIng, MASc, PhD, DEng, DrIng, DSc, FEIC, FCSME, FCASI, FASME, FIMechE, CEng, PEng
J. W. Senders, AB, PhD
J. G. C. Templeton, BA, AM, PhD, PEng
J. Van de Vegte, DipIng, MASc, PhD, PEng

### Associate Members

M. Bussmann, BASc, MASc, PhD
E. I. Butler, BSc, MSc, PhD
T. Chau, BASc, MASc, PhD
P. N. Cox, MB ChB, FFARCS, FRCPC
R. Emami, BSc, MASc, PhD
D. Frances, BASc, MASc, PhD
F. Honarvar, BSc, MASc, PhD
M. Ivanovic, BEng, DipIng, MASc, PhD
J. G. Kawall, BASc, MASc, PhD
C.-G. Lee, BSc, MSc, PhD
M. F. Lightstone, BASc, MASc, PhD
E. E. Pickett, BASc, MA, PhD
M. R. Popovic, MSc, MASc, PhD
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*Web:* www.mie.utoronto.ca

Qualified candidates are accepted 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, technology-society studies, and other related topics. In addition, the Department of Mechanical and Industrial Engineering participates with other graduate units to offer the following collaborative programs within the University:

**1** Biomedical Engineering
**2** Environmental Engineering
**3** Integrated Manufacturing
**4** Wood Products Engineering

Details of each of these programs are described in separate entries in this calendar.

**Degree Programs**

A brief outline of the available degree programs and admission requirements is given below. Further details may be obtained from the Mechanical and Industrial Engineering Graduate Studies Office or the current booklet, *Graduate Studies in Mechanical and Industrial Engineering*.

Students registered in a graduate degree program, which involves research, are required to participate in the non-credit seminar course JDE 1000H *Ethics in Research* during their first or second session of registration.

**Degree of Master of Applied Science**

This degree program provides candidates with an opportunity to pursue research-intensive advanced studies in a particular field of interest. At the beginning of each candidate's program, a professor in the Department will be identified as the supervisor. In consultation with the supervisor, each candidate will prepare a program of study which must be approved by the Department. For students with an adequate undergraduate background, the program will normally consist of five graduate half-courses and a thesis.

Applicants for the Master of Applied Science program or the Master of Engineering program 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. Additional factors considered in assessing applicants are 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.

**Degree of Master of Engineering**

This program is designed for candidates preparing for advanced professional activity; it is not a research-oriented degree. The program normally requires a total of 10 half-courses, or 7 half-courses 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. Admission requirements are the same as those listed above for the Master of Applied Science students.

**Degree of Doctor of Philosophy**

This program is for students who are planning a career in which they will be performing or directing research at the most advanced level.

Candidates for this degree must normally have a master's degree from a recognized university. Admission to a Ph.D. program is reserved for those who are able to present evidence of superior academic and research ability. Exceptionally strong bachelor's students may apply directly to a Ph.D. program.

At the beginning of each candidate'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. Ph.D. candidates must meet the minimum departmental standard in course work. For students with an appropriate background, the program will normally consist of five half-courses and a thesis. Two of the five half-courses must be core courses selected from the list below. Students admitted directly to a Ph.D. program with a bachelor's degree are required to complete eight half-courses (two must be core courses) plus a thesis. Ph.D. candidates are required to be on campus full-time for a minimum of two consecutive academic years. Normally no more than four years are required to complete the program of study.

Each Ph.D. candidate must pass a qualifying examination, a seminar presentation, and two oral examinations on the research thesis.

**Program Transfer**

Very strong M.A.Sc. candidates may apply to transfer to the Ph.D. program after completing only one year of the M.A.Sc. program. Regulations governing such transfers are available in the Mechanical and Industrial Engineering

Graduate Studies Office. A student who is permitted such a transfer must complete a total of eight half-courses in the graduate program.

**English Language Facility**
When proof of English language facility is required for admission, candidates must attain a score of at least 237 on the computer-based TOEFL or 580 on the paper-based TOEFL (Test of English as a Foreign Language) and 4.0 on the TWE (Test of Written English). A score of 85 or better from MELAB (Michigan English Language Assessment Battery) or 7.0 or better from IELTS (International English Language Testing System) is also acceptable.

**Courses of Instruction**
See the departmental graduate office for a schedule of available courses.

***Core Courses***
MIE 1001H Dynamics II/*J. W. Zu*
MIE 1101H Thermodynamics II/*C. A. Ward*
MIE 1201H Fluid Mechanics III/*I. G. Currie*
MIE 1301H Solid Mechanics/*W. L. Cleghorn*
MIE 1501H Information Systems I: Data and Knowledge Modelling/*M. S. Fox*
MIE 1801H Engineering Analysis III/ *A. Mandelis*
MIE 1901H Technology, Society, and the Environment I/*W. H. Vanderburg* (offered jointly with the Institute for Environmental Studies)

*One of:*
MIE 1403H Analytical Methods in Human Factors Research/*P. Milgram*
MIE 1406H Cognitive Work Analysis/*K. J. Vicente*
MIE 1408H Theoretical Foundations of Human Factors/*K. J. Vicente*

*One of:*
MIE 1603H Integer Programming/*M. W. Carter*
MIE 1607H Stochastic Modelling and Optimization/*V. Makis*

***Robotics, Dynamic Systems and Controls***
MIE 1001H Dynamics II/*J. W. Zu*
MIE 1002H Dynamics III/*Staff*
MIE 1005H Theory of Vibrations I/*W. L. Cleghorn*
MIE 1009H Applied Acoustics/*D. L. Allen*
MIE 1043H Control Systems II/*Staff*
MIE 1062H Robot Kinematics and Dynamics/ *A. A. Goldenberg*
MIE 1063H Introduction to Theoretical Kinematics/*A. A. Goldenberg*
MIE 1064H Control Analysis Methods with Applications to Robotics/*J. K. Mills*
MIE 1066H Robot Mechanics and Control/ *A. A. Goldenberg*

***Thermal Sciences***
MIE 1101H Thermodynamics II/*C. A. Ward*
MIE 1102H Fuel Cell Kinetics/*C. A. Ward*
MIE 1107H Statistical Thermodynamics/*C. A. Ward*
MIE 1109H Surface Phenomena/*D. Li*
MIE 1110H Nonequilibrium Thermodynamics/ *C. A. Ward*
MIE 1111H Conduction Heat Transfer/ *A. Mandelis*
MIE 1112H Advanced Topics in Conduction Heat Transfer/*A. Mandelis*
MIE 1113H Radiant Heat Transfer/ *S. McCahan*
MIE 1115H Heat Transfer with Phase Change/*S. Chandra*
MIE 1116H Design and Analysis of Heat Exchangers/*Staff*
MIE 1118H Partially Ionized Gases/ *J. Mostaghimi*
MIE 1122H Combustion Engine Processes/ *J. S. Wallace*
MIE 1123H Physical Aspects of Combustion/ *J. S. Wallace*
MIE 1124H Combustion in I. C. Engines/*J. S. Wallace*
MIE 1125H Advanced Topics in Combustion/ *J. S. Wallace, S. Chandra*
MIE 1126H Diffusion-Wave Fields: Mathematical Methods and Analytical Case Studies in the Thermal, Electronic and Biomedical Sciences/ *A. Mandelis*
MIE 1176H Optoelectronic Energy Conversion II/*A. Mandelis*
MIE 1178H Direct Energy Conversion and Corrosion/*Staff*
JEL 1704H Introduction to Lasers/ *A. Mandelis*
MIE 511H Problems in Heat Transfer/*Staff*
MIE 513H Combustion and Incineration/ *S. McCahan*

***Fluid Mechanics***
MIE 1201H Fluid Mechanics III/*I. G. Currie*
MIE 1202H Fluid Mechanics IV/*I. G. Currie*
MIE 1203H Hydrodynamics/*Staff*
MIE 1206H Non-Newtonian Fluid Mechanics/ *D. F. James*

MIE 1207H Structure of Turbulent Flows/*P. E. Sullivan*
MIE 1209H Advanced Topics in Turbulent Flows/*P. E. Sullivan*
MIE 1210H Computational Fluid Mechanics and Heat Transfer/*C. R. Ethier*
MIE 1211H Advanced Topics in Convection/*J. Mostaghimi*
MIE 1212H Convective Heat and Mass Transfer/*Staff*
MIE 1213H Advanced Topics in Computational Fluid Dynamics/*Staff*
MIE 1220H Environmental Fluid Dynamics/*Staff*
MIE 1221H Advanced Topics in Hydraulics/*Staff*
MIE 1222H Multiphase Flows/*N. Ashgriz*
MIE 1248H Hydraulics of Open Channels/*Staff*
MIE 512H Air Pollution: Its Formation and Control/*M. J. Thomson*
MIE 514H Atmospheric Pollution: Environmental Effects and Consequences/*J. F. Keffer*
MIE 519H Environmental Fluid Mechanics/*Staff*
JMA 544H Air Pollution and Control/*J. F. Keffer*

***Applied Mechanics***

MIE 1301H Solid Mechanics/*A. N. Sinclair*
MIE 1302H Elasticity/*Staff*
MIE 1303H Fracture Mechanics/*S. A. Meguid*
MIE 1304H Fracture and Fatigue Engineering/*R. D. Venter, D. McCammond*
MIE 1307H Theory and Application of Elastic Plastic Fracture Mechanics/*A. N. Sinclair, B. Mukherjee*
MIE 1340H Plasticity and Metalforming/*R. G. Fenton*
MIE 1341H Plasticity I/*R. G. Fenton, R. D. Venter*
MIE 1344H Theory of Forming Processes/*Staff*
MIE 1346H Viscoelasticity/*D. McCammond*
MIE 1355H Ultrasonic Non-Destructive Testing/*A. N. Sinclair*
MIE 1356H Laser/Thermal Wave Techniques in NDE/*A. Mandelis*

***Human Factors/Ergonomics***

MIE 1402H Experimental Methods in Human Factors Research/*M. H. Chignell*
MIE 1403H Analytical Methods in Human Factors Research/*P. Milgram*
MIE 1404H Human Factors in Information Technology/*M. H. Chignell*
MIE 1405H Human Control of Telerobotic Systems/*P. Milgram*
MIE 1406H Cognitive Work Analysis/*K. J. Vicente*
MIE 1407H Engineering Psychology and Human Performance/*P. Milgram*
MIE 1408H Theoretical Foundations of Human Factors/*K. J. Vicente*
MIE 1409H Design of Ecological Interfaces/*K. J. Vicente*
MIE 1410Y Human Factors Project/*Staff*
MIE 1411H Design of Work Places/*Staff*

***Information Systems***

MIE 1501H Information Systems I: Data and Knowledge Modelling/*M. S. Fox*
MIE 1502H Information Technology and Systems: Management Strategies/*C. D. Sadleir*
JCI 1503H Advanced Topics in Computing and Information Systems/*J. C. Paradi*
MIE 1504H Management of Technological Change/*J. C. Paradi*
MIE 1505H Enterprise Modelling/*M. S. Fox*
MIE 1506H Information Systems II: Models of Reasoning/*I. B. Turksen*
MIE 1507H Analysis of Fuzzy Systems/*I. B. Turksen*
MIE 1508H Design of Fuzzy Systems/*I. B. Turksen*
MIE 1509H Seminar on Approximate Reasoning and Knowledge-Based Systems/*I. B. Turksen*

***Operations Research***

MIE 1602H Methods in Linear Programming/*J. S. Rogers*
MIE 1603H Integer Programming/*M. W. Carter*
MIE 1604H Nonlinear Programming/*Staff*
MIE 1605H Stochastic Models/*M. J. M. Posner*
MIE 1606H Advanced Queueing Theory/*M. J. M. Posner*
MIE 1607H Stochastic Modelling and Optimization/*V. Makis*
MIE 1608H Single Criterion Decision Making/*M. W. Carter*
MIE 1609H Multiple Criteria Decision Making/*J. S. Rogers*
MIE 1610H The Design of Energy Systems/*J. S. Rogers*
MIE 1611H Planning for Capacity Expansion/*J. S. Rogers*
MIE 1612H Combinatorics and Graph Theory/*Staff*
MIE 1613H System Simulation/*Staff*

MIE 1614H Introduction to Operational Research/*D. Frances*
MIE 561H Healthcare Systems/*M. W. Carter*
MIE 562H Scheduling/*I. B. Turksen*
MIE 566H Decision Analysis/*Staff*

***Design and Manufacturing Engineering***

JCI 1321H Wood Engineering/*J. K. Spelt, M. Kortschot*
JMZ 1704H Polymer Process Engineering/*F. Maine*
MIE 1706H Manufacturing of Cellular and Microcellular Polymers/*C. B. Park*
MIE 1712H Manufacturing Processes, Machine Tools, Numerical Control/*R. G. Fenton*
MIE 1713H Analysis and Design of Joints in Manufactured Products/*J. K. Spelt*
MIE 1714H Optimal Design of Mechanical Systems/*Staff*
MIE 1715H Quality Control/*R. D. Venter*
MIE 1716H Design and Computer-Aided Engineering/*C. B. Park*
MIE 1717H Design for Manufacture and Assembly/*L. Shu*
MIE 1718H Computer Integrated Manufacturing/*B. Benhabib*
MIE 1719H Engineering Design Modelling/*L. Chen*
MIE 1720H Modelling and Analysis of Manufacturing Systems/*Staff*
MIE 1721H Reliability/*V. Makis*
MIE 1722H Production Planning and Control/*Staff*
MIE 1723H Engineering Maintenance Management/*A. K. S. Jardine*
MIE 1724H Topics in Estimation and Control of Discrete Product Manufacturing/ *Staff*
MIE 1725H Group Technology/*Staff*
MIE 1726H Logistics/*Staff*
MIE 1727H Quality Assurance I/*V. Makis*
MIE 1728H Scheduling/*M. W. Carter*
MIE 1729H Machine Perception and Robot Sensors/*Staff*
MIE 1730H Plant Layout and Material Handling/*Staff*
MIE 1731H Quality Assurance II/*V. Makis*
MIE 540H Product Design/*C. Gidman*

***Mathematical Modelling and Analysis***

MIE 1801H Engineering Analysis III/*A. Mandelis*
MIE 1802H Engineering Analysis with Complex Variables/*Staff*
MIE 1804H The Finite Element Method in Mechanical Engineering/*S. A. Meguid*
MIE 1805H Analysis of Engineering Data/*J. G. Kawall*
MIE 1806H Introduction to Digital Image Processing and Analysis/*Staff*
MIE 1807H Principles of Measurements/*J. G. Kawall*
MIE 1808H Applied Dynamic System Modelling and Identification/*M. R. Emami*
MIE 1809H Advanced Mechatronics/*R. Ben Mrad*
MIE 1810H Neural Networks and Fuzzy Systems: Introduction, Modelling and Control/*A. A. Goldenberg*
MIE 536H Engineering Analysis II/*C. A. Ward*

***Technology-Society Studies***

MIE 1901H Technology, Society, and the Environment I/*W. H. Vanderburg*
MIE 1902H Technology, Society, and the Environment II/*W. H. Vanderburg*
MIE 1903H Advanced Topics in Preventive Engineering/*W. H. Vanderburg*
MIE 1904H Readings in Technology and Modern Society II/*W. H. Vanderburg*

***Special Topics***

MIE 2002H Readings in Industrial Engineering I (CR/NCR)
MIE 2003H Readings in Industrial Engineering II (CR/NCR)
MIE 2004H Readings in Mechanical Engineering I (CR/NCR)
MIE 2005H Readings in Mechanical Engineering II (CR/NCR)

# Medical Biophysics MBP

## Graduate Faculty

### Full Members

M. C. Archer, MA, MSc, PhD, DSc, Earle W. McHenry Professor and Chair
C. Arrowsmith, BSc, PhD
L. Attisano, BSc, PhD
J. E. Aubin, BSc, PhD
D. Barber, BSc, PhD
Y. Ben-David, BSc, MSc, PhD
S. Benchimol, BSc, PhD
N. L. Berinstein, MD, FRCP(C)
A. Bernstein, BSc, PhD, FRSC
M. L. Bjerknes, BSc, MSc, PhD
N. F. Boyd, MD, FRCP(C), The Lau Family Chair in Breast Cancer Research
M. J. Bronskill, BSc, MSc, PhD
P. N. Burns, BSc, PhD
A. Chakrabartty, BSc, MSc, PhD
H. Cheng, BSc, MSc, PhD
J. A. Cunningham, BVSc, PhD
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The Department of Medical Biophysics, an interdisciplinary department with three subsections, Cell and Molecular Biology, Molecular and Structural Biology, and Medical Physics, is located primarily at the Ontario Cancer Institute and the Sunnybrook and Women's College Health Sciences Centre. The Department offers opportunities for research 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 electron microscopy, 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 listed above.

**Degree of Master of Science**
Candidates are accepted under the general regulations. Students with diverse backgrounds are encouraged to apply. Applicants from outside Canada are required to provide GRE (general) scores with their application. All candidates with a B.Sc. degree are enrolled in the M.Sc. program; qualified students can reclassify for the Ph.D. degree during their second year. The course requirements will depend on the subject chosen for study and on the background of the candidate. The M.Sc. program usually requires two years and includes both course work and research. To qualify for a degree, the student must take MBP 1015Y *Biophysics Seminar,* two additional full courses, and pass an oral examination on the topic of the thesis. It should be noted that admission to the Ph.D. program is highly selective and attainment of minimal standing as an M.Sc. student does not guarantee admission to the Ph.D. program.

**Degree of Doctor of Philosophy**
Candidates for the Ph.D. degree can be accepted by two routes, either via reclassification from the M.Sc. program or under the general regulations after completion of an M.Sc. degree in biological, physical, chemical, or medical sciences.

Except by special arrangements, candidates are required to be on campus and participating full-time until all program requirements are completed. Because of the broad range of topics available for thesis research and because of the different backgrounds of students accepted in the Department, each student will, in consultation with his/her supervisor, plan a program of study that provides the appropriate background for the area of investigation. All candidates are required to complete a minimum of three full courses. Candidates who have completed an M.Sc. degree in Medical Biophysics will receive credit for two full courses and will have only one course to complete to fulfil the three course requirement. Candidates who completed their M.Sc. degree in a department other than Medical Biophysics may request exemption for one full course.

M.Sc. students who tranfer to the doctoral program may receive partial credit towards doctoral course requirements for courses taken while in the M.Sc. program.

## Collaborative Programs

### *Biomolecular Structure (Collaborative Program)*

Ph.D. students in the Molecular and Structural Biology stream may choose to enrol in this interdepartmental program. An additional course may be requried. Consult the separate entry in this calendar for more details.

### *Cardiovascular Sciences (Collaborative Program)*

Students in the Department of Medical Biophysics may choose to enrol in this interdepartmental program. Students follow a program of study acceptable to both the participating unit and the Cardiovascular Sciences program. An additional course is required for Ph.D. students. Upon successful completion of the requirements, students receive, in addition to the M.Sc. or Ph.D. degree in their home graduate units, a separate certificate from the program and the notation "Completed Collaborative Program in Cardiovascular Sciences" on their transcript. Consult the separate entry in this calendar for more details.

### *Toxicology (Collaborative Program)*

An M.Sc. or Ph.D. degree in Toxicology may be taken through this Department. For more details on this collaborative program, consult the Environmental Studies entry in this calendar.

## Courses of Instruction

MBP 1001Y Advanced Cell Biology (topics change; consult Course Coordinator about current topics)/ *C. Richardson, W.-C. Yeh, Staff*

MBP 1007H Fundamentals in Molecular and Cell Biology I/*J. Gariepy, Staff*

MBP 1008H Fundamentals in Molecular and Cell Biology II/*J. Gariepy, Staff*

MBP 1010H Quantitative Biology—Statistical Methods/*M. Noseworthy, G. Stanisz*

MBP 1011H Foundations of Bioinformatics/ *G. Prive, I. Jurisica*

MBP 1015Y[o] Biophysics Seminar/*P. Burns, V. Skalski*

MBP 1018Y Oncology/*R. Bristow*

MBP 1022H Advanced Cell Biology for Physical Scientists/*D. Dumont*

MBP 1023H Clinical Radiation Physics/*Staff*

MBP 1024Y Advanced Medical Imaging/*F. S. Foster, D. B. Plewes*

MBP 1026H Clinical Imaging for Physical Scientists/*P. N. Burns*

MBP 1028H Optical, Thermal and Radiation Biophysics/*M. Sherar*

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

# Medical Science MSC

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C. C. Yip, BSc, PhD
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S. Yusuf, MBBS, DPhil, FRCP(UK), FRCP(C), FACC
N. Zamel, MD
B. W. Zanke, MD, LMCC, FRCP(C), PhD
B. Zinman, BSc, MD, FRCP(C)
R. B. Zipursky, MD

**Members Emeriti**

G. M. Brown, MD, FRCS(C), PhD
W. W. Kalow, MD
E. A. McCulloch, OC, MD, FRCP(C), FRSC, FRS, University Professor Emeritus
H. Moldofsky, MD
W. Pruzanski, MD
R. B. Salter, MD, University Professor Emeritus
P. Seeman, BSc, MSc, MDCH, PhD
L. Siminovitch, BSc, PhD, DSc Hon Causa, University Professor Emeritus
R. R. Tasker, MD

**Associate Members**

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B. Christensen, PhD
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M. M. A. Lemmens, Candlur, Liclur, LLM
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M. Simon
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**Introduction**

The Institute of Medical Science (IMS) is dedicated to the training of medical researchers and the dissemination of new knowledge relevant to human biology and pathobiology. It was established in 1968 as a graduate unit within the School of Graduate Studies to foster education and scholarship in the clinical departments of the Faculty of Medicine.

The IMS provides a wide range of opportunities for multidisciplinary research in clinical and basic medical science and related fields. Graduate supervisors are world-class researchers located throughout the health sciences network, including hospital research institutes, teaching hospitals, and university basic science departments.

Qualified university graduates with a professional health science degree (e.g., M.D., B.Sc.N.) or an undergraduate arts and science degree of appropriate background who wish to pursue graduate studies in basic or clinical biomedical sciences are encouraged to apply.

Degree candidates will have the opportunity to conduct research in one of four training streams:

**1** Biomedical
**2** Clinical
**3** Health services
**4** Population health

Each stream offers a variety of multidisciplinary studies in fields such as cardiovascular sciences, bioethics, neuroscience, membrane biology, respiratory medicine, and psychosomatic medicine.

The IMS participates in the Royal College of Physicians and Surgeons Clinician Investigator Program (CIP).

**English Language Proficiency**

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):*** a minimum score of 600 on the paper-based test or a minimum score of 250 on the computer-based test together with a minimum score of at least 5 on either the Test of Written English (TWE) or Essay Rating.

***Michigan English Language Assessment Battery (MELAB):*** minimum score of 87.

***International English Language Testing System (IELTS):*** minimum score of 7.5.

**Degree of Master of Science**
Candidates for this degree are admitted under the general regulations of the School of Graduate Studies and must have graduated with a four-year B.Sc. or an M.D. degree from a recognized university and academic credentials and background preparation appropriate to the field of study. Competitive applicants should have an A- average in their final year of undergraduate study and an A- cumulative average over three of the four total years of study. Candidates 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.

The M.Sc. program usually requires two years and includes both course work and research. To qualify for this degree, one full graduate course credit in addition to MSC 1010Y° *M.Sc. Student Seminars* is required. Each candidate must submit a thesis on their research and pass an oral thesis examination.

A Master of Science degree in the History of Medicine is offered by the Institute of Medical Science, primarily to graduate physicians (M.D. degree). This program requires submission and oral defence of a master's thesis and completion of MSC 1070Y *History of Medicine*; two full-course equivalents in the Graduate Department of History and in the Institute for the History and Philosophy of Science and Technology (IHPST); and MSC 1010Y° *M.Sc. Student Seminars*. For students wishing to pursue a doctoral degree in IHPST, one of the courses should be HPS 5006H or HPS 1014Y.

**Degree of Master of Health Science in Bioethics**
The M.H.Sc. program is offered in collaboration with the University of Toronto Joint Centre for Bioethics and is directed to practitioners who wish to increase their knowledge and skills in bioethics by assisting them in their roles as clinician/teachers, as members of bioethics committees, etc. It is a professional master's degree program that does not require a thesis.

Please refer to the Bioethics entry in this calendar for more information about this program.

**Degree of Master of Science in Biomedical Communications**
The M.Sc.BMC program is a two-year professional Master of Science program that involves the artist in medical and health education and research.

Please refer to the Biomedical Communications entry in this calendar for more information about this program.

**Degree of Doctor of Philosophy**
Candidates for the Ph.D. degree are accepted via one of three routes:
**1** *After completion of a M.Sc. degree* (with a M.Sc. thesis) with at least A- standing from a recognized university. Such students will be expected to complete a minimum of one full graduate course equivalent, plus MSC 1011Y *Ph.D. Student Seminars*.
**2** *Transfer from the IMS M.Sc. program*. Outstanding students in the M.Sc. program may be considered for reclassification into the Ph.D. program without writing a M.Sc. thesis. Such students must have completed one full graduate course equivalent with a minimum A- average, plus MSC 1010Y *M.Sc. Student Seminars*. If recommended, the student will be evaluated in an oral transfer examination within 18-24 months of initial graduate registration. The successful candidate will enter the Ph.D. program and will be expected to complete a minimum of two full graduate course equivalents (including those already completed in the M.Sc.), plus MSC 1011Y *Ph.D. Student Seminars*. Alternatively, the Exam Committee may decide that the student must complete the M.Sc. degree before being considered for admission to the Ph.D. program.
**3** *Direct Entry into the Ph.D. Program* without having completed a M.Sc. degree. Direct-entry Ph.D. students will be required to pass a qualifying examination within 18-24 months of entry and will be expected to complete a minimum of two full graduate course equivalents, plus MSC 1011Y *Ph.D. Student Seminars*.

The Ph.D. graduate program emphasizes research work. 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. It is expected that courses will be completed in the first year, and that the research, written thesis, and defence will be completed by the end of year 3 or 4. To qualify for the Ph.D. degree, a thesis must be submitted and the student must pass an internal examination before proceeding to the final Ph.D. oral examination conducted by the School of Graduate Studies.

°Courses which may continue over a program. The course is credited when completed.

**Certificate in Teaching**
The Institute of Medical Science offers a Certificate in Teaching in the Biomedical Sciences to qualified Ph.D. students enrolled in the School of Graduate Studies. Contact the Institute for details.

**Collaborative Programs**
The Institute of Medical Science participates in the following collaborative programs:
Addiction Studies
Aging and the Life Course
Bioethics
Biomedical Engineering
Cardiovascular Sciences
Environment and Health (see Environmental Studies entry)
Neuroscience
Toxicology
For more details, consult the separate entries in this calendar.

**Courses of Instruction**

JCV 3060H Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction/*C. Wittnich*
JCV 3061H Advanced Topics in Cardiovascular Sciences—Hormones/*C. Wittnich*
JCV 3062H Advanced Research in Cardiovascular Sciences—Heart Function/*C. Wittnich*
JCV 3063H Advanced Research in Cardiovascular Sciences—Vascular/*C. Wittnich*
JFK 1120H Selected Topics in Drug Development I/*M. Piquette-Miller*
JFK 1121H Selected Topics in Drug Development II/*M. Piquette-Miller*
JPM 1005Y Behavioural Pharmacology/*E. M. Sellers, Staff*
JPM 1008H Psychopharmacology and Women's Health/*E. M. Sellers*
MSC 1001Y Human Anatomy (Including Embryology)/*I. Taylor*
MSC 1006H Advanced Neuroanatomy/*J. St.-Cyr*
MSC 1008Y Advanced Human Embryology and Teratology/*M. Wiley*
MSC 1010Y° M.Sc. Student Seminars (CR/NCR)/*Coordinator of Graduate Studies*
MSC 1011Y° Ph.D. Student Seminars (CR/NCR)/*Coordinator of Graduate Studies*
MSC 1020H Molecular Approaches to Health and Disease/*D. M. Clarke*
MSC 1040H Physiologic Basis of Disease/*T. Lindsay*
MSC 1051H Research Bioethics/*T. Lemmens*
MSC 1052H Clinical Bioethics/*N. Lazar*
MSC 1070Y History of Medicine Core Course/*E. L. Shorter*
MSC 1080H Introduction to Biostatistics and Clinical Epidemiology/*D. L. Streiner*
MSC 1081H Studies in Schizophrenia/*R. Zipursky*
MSC 1082H Seminars in Psychosomatic Research/*G. Devins, G. Rodin*
MSC 1083H Chronobiology and Sleep/Wakefulness/*Staff*
MSC 1084H Glomerular Based Diseases–Bench to Bedside/*D. Cattran*
MSC 1085H Molecular Approaches to Mental Health and Addictions/*J. Kennedy*
MSC 2010Y Advanced Concepts in Human Genetic Disease/*L. Osborne*
MSC 2020H Applied Statistical Genetics of Human Diseases/*Staff*
MSC 4000H Seminars on Environment and Health/*F. Silverman*
MSC 5000Y Course Development and Teaching/*A. Rothman*
MSC 6000H Special Topics in Anatomy/*Staff*

(CR/NCR) Credit/No Credit
°Courses which may continue over a program. The course is credited when completed.

# Combined Doctor of Medicine/Doctor of Philosophy Program

**Nature of the Program**
The M.D./Ph.D. program is offered jointly by the Faculty of Medicine and the School of Graduate Studies. Its purpose is to provide selected and highly qualified students with 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 will carry out research under the supervision of a member of a graduate department or institute at the University and should consult the appropriate department or institute regarding specific research programs.

**Admission Requirements**
Candidates for admission to the M.D./Ph.D. program 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. Students who are undertaking graduate study at the master's level or are already in first year medical school are also eligible for this program.

**Program Requirements**
Candidates for admission to the M.D./Ph.D. program may pursue the dual degrees via an integrated or a sequential route.

In the fully integrated approach, students with a four-year bachelor's degree will enter the M.D./Ph.D. program and, within a period not exceeding six years, complete the requirements of the first two years of the M.D. program and all requirements of the Ph.D. program. During this time a predetermined program of integration will be pursued which provides time allocation for both medical school and graduate study. On completion of the Ph.D. degree, students will return full time to the medical program.

In the sequential model, students with a four-year bachelor's degree enter the medical program on a full-time basis. After 18 months of medical school, they then proceed to full-time graduate work until completion of the Ph.D. degree. Students then return to medical school to complete the last 2½ years.

For detailed information and application material, please contact:

M.D./Ph.D. Program
Medical Sciences Building
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Canada
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# Medieval Studies MST

## Graduate Faculty

### Full Members

J. Abray, BA, MA, MPh, PhD/History
S. C. Akbari, BA, MA, MPhil, PhD/Medieval Studies
L. D. Armstrong, BA, MA, MDiv, PhD/Medieval Studies
T. D. Barnes, BA, MA, DPhil, FRSC/Classics
K. R. Bartlett, BA, MA, PhD/History
D. L. Black, BA, MA, PhD/Philosophy
J. R. Blackburn, MA, PhD/Near & Middle Eastern Civilizations
J. Blackmore, BA, MA, PhD/Spanish
W. R. Bowen, BA, BMus, MA, PhD/Music
V. Brown, AB, MA, PhD/Medieval Studies
J. F. Burke, BA, MA, PhD/Spanish
J. P. Carley, BA, MA, PhD/Medieval Studies
G. P. Clivio, BA, MA, PhD/Italian Studies
I. Cochelin, BSc, BA, MA, DEA, PhD/History
H. S. F. Collins, MA, PhD/French
J. H. Corbett, BA, MA, PhD/Religion
M. Dimnik, BA, MA, MDiv, DPhil/Medieval Studies
A. Dooley, BA, MA, PhD/Medieval Studies
B. E. Dresher, BA, PhD/Linguistics
K. Eisenbichler, BA, MA, PhD/Italian Studies
E. Ewan, BA, PhD/Medieval Studies
R. A. Falck, BMus, MFA, PhD/Music
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P. J. Fedwick, BA, BTh, MTh, PhD/Medieval Studies
H. Fox, BA, BSc, MA, MS, PhD/Religion
M. Gervers, AB, MA, PhD/History
J. Goering, BA, MAR, MA, MSL, PhD/History
L. V. Golombek, MA, PhD/Near & Middle Eastern Civilizations
P. R. Grillo, AM, PhD/French
R. W. L. Guisso, BA, DPhil/East Asian Studies
S. Günther, PhD/Near & Middle Eastern Civilizations
B. S. Hall, BA, PhD/History & Philosophy of Science & Technology
E. R. Harvey, BA, MPhil, PhD/English
***(Ph.D. Secretary)***
A. di P. Healey, BA, MA, PhD/Medieval Studies
M. W. Herren, BA, MSL, PhD/Medieval Studies
R. C. Hoffmann, BA, PhD/Medieval Studies
A. Hughes, MA, DPhil, University Professor/Music
A. A. Iannucci, BA, AM, PhD/Medieval Studies
A. F. Johnston, MA, PhD, LLD, DD, FRSC/English
B. M. Kaczynski, BA, MPhil, PhD/Medieval Studies
E. J. Keall, BA, PhD/Near & Middle Eastern Civilizations
P. King/Medieval Studies
J. Kivimäe, BA, PhD/History
D. N. Klausner, AB, PhD/Medieval Studies
***(Director)***
D. I. Lancashire, BA, MA, PhD/English
J. C. Magee, BA, MA, PhD/Classics
C. J. McDonough, BA, MA, PhD/Classics
B. S. Merrilees, MA, D de L'U/French
M. D. Meyerson, BA, MA, PhD/History
J. H. A. Munro, BA, MA, PhD/Economics
A. C. Murray, BA, PhD/History
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J. T. Wollesen, PhD, Dr phil habil/History of Art

### Members Emeriti

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J. R. Webster, BA, MA, PhD, FRSC/Spanish

### Associate Members

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I. C. McDougall, BA, MA, PhD
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**Organization and Program**
The Centre for Medieval Studies provides inter-departmental 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 it encourages them to explore with learning and imagination our one-thousand-year segment of the Western artistic and cultural tradition.

**Application**
Candidates for the M.A. must have an average of at least a B+ standing in their previous course work and must satisfy the Centre's additional admission requirements stated here. Applicants must arrange for two supporting letters to be sent to the Director. They will also be asked to complete forms, available from the Centre, in which they state the reasons for undertaking graduate studies in the medieval area and their qualifications for applying to do so.

**Medieval Latin**
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 term and at the end of the spring term. All incoming students must take the Medieval Latin examination at the beginning of the fall term for placement purposes.

Candidates for the M.A. degree, full-time and part-time, must pass the M.A. Latin examination no later than September at the end of the second year after enrolment in the M. A. program.

Course training in Latin is given at four levels. A non-credit course in Classical Latin grammar and readings is given for those with little prior knowledge. MST 1000Y° *Introductory Medieval Latin* is the M.A.-level course, and MST 1001Y° *Intermediate Medieval Latin* is the Ph.D.-level course. These two courses lead specifically to the M.A. and Ph.D. Latin examinations given in the spring.

M.A. students who pass the M.A. Latin examination on arrival will receive advanced standing in Latin equivalent to a credit in MST 1000Y°, and will be required to take only three more courses for the M.A.; however, those interested in eventually proceeding to the Ph.D. are urged to take an additional Latin course in order to satisfy the Ph.D. requirement as early as possible.

Advanced seminars are also available for those wishing to study Medieval Latin literature, Vulgar Latin philology, or the like in more detail.

**Degree of Master of Arts**
A candidate for the M.A. must have completed a four-year B.A., or its equivalent, in which course work in the medieval period formed part of the program. M.A. students may be full-time or part-time; full-time students may be admitted to either a one-year or a two-year degree depending on their previous training in Latin and medieval studies.

Students may obtain an M.A. in medieval studies by course work or by a combination of course work and thesis. In the course work option, the student must successfully complete four courses in medieval subjects; in the thesis option, three courses are required in addition to the thesis. In either case, one of the M.A. courses must be MST 1000Y° *Introductory Medieval Latin* (or advanced credit therein). An M.A. thesis must be on a subject approved by the Centre, and the topic must be submitted to the Centre by November 30 of the M.A. year. Candidates who wish to present themselves for the degree at the Fall Convocation must submit two unbound copies of their thesis not later than September 1. For the Spring Convocation, the latest date of submission is March 1.

**Degree of Doctor of Philosophy**
Candidates must satisfy the Centre of their ability to do independent research of high quality; admission to the Ph.D. program also requires either

**a** 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,

*or*

**b** a University of Toronto master's degree in medieval studies or a related field, or its equivalent from a recognized university, with an

°Courses which may continue over a program. The course is graded when completed.

average grade of at least A- in the applicant's overall program.

In either case, candidates must also pass the M.A. Latin examination before they may be admitted to the Ph.D. program. Students in the Centre's M.A. program must apply formally for admission to the Ph.D. program on the same basis as all other candidates.

The Ph.D. is offered only on a full-time basis. During the first two years, students must take a minimum of three full courses or their equivalent, including one full course or two half-courses 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. Students may fulfil the requirement of a minor subject by taking, for example, Latin Paleography, Latin Textual Criticism, or Diplomatics and Diplomatic Editing, provided that the doctoral dissertation itself is not based upon a similar editing of texts. MST 1001Y° may not be counted as a minor subject or course requirement for the Ph.D.

In addition to their Ph.D. courses, students must pass the Ph.D. Latin examination, and the Centre's examinations in the French and German languages. When students have qualified in these three languages, they may proceed to the major field examination whose purpose is to demonstrate both the student's scholarly expertise in the particular area of the doctoral dissertation and a broader academic competence. Students should seek out a provisional supervisor with whom to discuss their plans for possible major and minor fields by the beginning of their second year. They will also need to contact two other academic advisors as early as possible, and no later than by the end of their second year. As soon as possible thereafter they should prepare a major field proposal according to the Centre's guidelines. The proposal must be signed by all three of the student's advisors and submitted to the Ph.D. Secretary for approval at least two months prior to the major field examination. After the proposal has been approved, the student's three-member committee will help the candidate to prepare for that 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 Ph.D. 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. Five unbound copies of the dissertation must be submitted to the Centre at least ten weeks before the date of the oral examination; because of the mid-year break, students wishing to defend before January 31 must submit the dissertation by November 15.

Students can and do complete a Ph.D. in Medieval Studies in four years, but some students, depending upon their financial circumstances and 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.

**Collaborative Programs**

The Centre for Medieval Studies participates in the following collaborative programs:
Ancient and Medieval Philosophy
Editing Medieval Texts

For more details, consult the separate entries in this calendar.

**Courses Available**

Not all courses are offered every year. Please consult the Centre's handbook 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. Attendance at graduate classes is mandatory.

**MST courses marked (PR) have prerequisites; further information may be obtained from the Centre.**

***Foundations and Theory of Medieval Studies***

HIS 1201H, MST 3101H, MST 3201H, MST 3301H, MST 3401H, MST 3501H, MST 3601H, MST 3602H. Please refer to the detailed listing below for complete titles.

***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 |

°Courses which may continue over a program. The course is graded when completed.

***Classics***

CLA 5017H Latin Legal Texts and the History of Late Roman Institutions/*T. O. Barnes*

***Comparative Literature***

COL 5021H The Body in Medieval Literature/ *J. Ross*

COL 5023Y The History of Reading Between Late Antiquity and the End of the Sixteenth Century/*B. Stock*

COL 5024Y Thomas More: Renaissance Humanism and the History of Utopian Thought/*B. Stock*

***East Asian Studies***

EAS 1143Y Civilization in Medieval China/ *R. Guisso*

***Economics***

ECO 2210Y Topics in the Economic and Social History of Later Medieval Europe, 1250-1600/*J. H. A. Munro*

***English***

ENG 1001H Old English I/*D. R. Townsend*

ENG 1002H Old English II/*D. R. Townsend*

ENG 1081H The Anglo-Saxon Riddle Tradition/*A. Orchard*

ENG 1303H Studies in Middle English Literature/*E. R. Harvey*

ENG 1573H Studies in the Poems of the *Pearl* Manuscript/*E. R. Harvey*

ENG 2475Y Elizabethan Drama: the Inherited Tradition/*A. Johnston*

***French Language and Literature***

FRE 1164H Medieval French Language and Literature/*B. Merrilees*

FRE 1303H L'Anglo-Normand/*B. Merrilees*

***History***

HIS 1201H The Materials of Medieval History (CR/NCR)/*J. Goering*

HIS 1209H The Anglo-Saxons/*A. C. Murray*

HIS 1213H Medieval Monasticism/*I. Cochelin*

HIS 1220H Mediaeval Law/*G. Silano*

HIS 1222H Ritual in Renaissance and Early Modern Europe/*N. Terpstra*

HIS 1230H The Sexes in the Western World, 1450-1650/*J. Abray*

HIS 1284H The Baltic World/*J. Kivimäe*

***History of Art***

FAH 1129H The Medieval Ages: Approaches, Means and Ends from the Renaissance to the Present/ *J. Wollesen*

FAH 1130Y The Classical Tradition in Western Medieval Art (German)/ *J. T. Wollesen*

FAH 1131H Profane Medieval Art./*J. T. Wollesen*

FAH 1132H Art and Architecture of Southern Italy and Sicily, ca. 1050-1350: Crossroads and Frontier (French and Italian)/*J. Caskey*

FAH 1133H The Normans in Southern Italy and Sicily/*J. Caskey*

FAH 1134H Communal Painting and Propaganda in Italy During the Thirteenth and Fourteenth Centuries/*J. T. Wollesen*

FAH 1228H Representation, Information and Interpretation of Medieval Pictures/*J. T. Wollesen*

***History and Philosophy of Science and Technology***

HPS 1018Y Topics in the History of Technology/*B. S. Hall*

HPS 1215H Medieval Technology and Society/ *B. S. Hall*

HPS 1216H Medieval Technology: Selected Topics/*B. S. Hall*

HPS 1217H Technology and War: 1090-1918/ *B. S. Hall*

HPS 5007H Fundamentals of the History of Technology I/*B. S. Hall*

***Italian Studies***

ITA 1025H Old Italian/*G. P. Clivio*

ITA 1200H Dante/*D. Pietropaolo*

ITA 1203H Boccaccio/*Staff*

ITA 1330H Petrarch and Petrarchism/*Staff*

ITA 1540H Renaissance Italian Theatre/ *K. Eisenbichler*

ITA 1545H The Sacra Rappresentazione/ *K. Eisenbichler*

ITA 1597H The Commedia dell'Arte/ *D. Pietropaolo*

***Joint Courses***

JHL 5001H Between Literature and History: Cultural Description in Early Modern Travel Literature/ *N. Davis*

JMT 1001H Topics in the Ancient Philosophical Commentators(PR)/*J. Magee*

(CR/NCR) Credit/No Credit
(PR) Courses with prerequisites

JMT 1002H Augustine: *Soliloquia*(PR)/ *J. Magee*
JRL 1100Y Introduction to Romance Philology/*Staff*

***Medieval Studies***

MST 1000Y° Introductory Medieval Latin (CR/NCR)/*Staff*
MST 1001Y° Intermediate Medieval Latin (CR/NCR)/*Staff*
MST 1002Y Advanced Medieval Latin (CR/NCR)/*Staff*
MST 1013H Pre-Conquest Anglo-Latin Literature (PR)/*A. Orchard*
MST 1015Y Latin Hagiographic Literature ca. 300-800 (PR)/*J. Corbett*
MST 1018H Anglo-Latin Literature: Eleventh and Twelfth Centuries (PR)/ *D. Townsend*
MST 1019H Anglo-Latin Literature: Thirteenth and Fourteenth Centuries (PR)/ *D. Townsend*
MST 1020H The Medieval Latin Epic (PR)/ *D. Townsend*
MST 1021H The Christian Latin Epic (PR)/*M. Herren*
MST 1101H Codicology/*V. Brown*
MST 1104H Latin Palaeography I (PR)/ *V. Brown*
MST 1105H Latin Palaeography II (PR)/ *V. Brown*
MST 1106H Topics in Latin Palaeography and Manuscript Research (PR)/ *V. Brown*
MST 1107H Latin Textual Criticism (PR)/ *J. Magee*
MST 1110H Diplomatics and Diplomatic Editing (PR)/*M. Meyerson*
MST 1111H Sources and Materials for Editing Medieval Texts (PR)/*W. Robins*
MST 1210H Judeo-Christian Koine Greek (PR)/*R. E. Sinkewicz*
MST 1212H The Apocryphal Bible (PR)/*R. E. Sinkewicz*
MST 1371H Old English Philology: Grammar (PR)/*A. Healey*
MST 1381H Homilies of the Vercelli Book (PR)/*A. Healey*
MST 1382H Old English Hagiography: Aelfrician and Anonymous Lives of Saints (PR)/*P. Thompson*
MST 1383H Old English Biblical Verse (PR)/ *A. Orchard*
MST 1384H Topics in Old English Lexicography I (PR)/*Staff*
MST 1385H Theory and Practice in the Editing of Old English Texts I (PR)/*Staff*
MST 1386H Readings in the History of Old English Lexicography I (PR)/ *Staff*
MST 1387H Topics in Old English Lexicography II (PR)/*Staff*
MST 1388H Theory and Practice in the Editing of Old English Texts II (PR)/*Staff*
MST 1389H Readings in the History of Old English Lexicography II (PR)/ *Staff*
MST 1392H Editing and Appreciating Wulfstan's Prose (PR)/ *A. Orchard*
MST 2010Y Old Norse/*D. McDougall, I. McDougall*
MST 2015H Studies in Old Norse Texts (PR)/ *A. Orchard*
MST 2016H Topics in Scandinavian Philology I (PR)/*D. McDougall, I. McDougall*
MST 2017H Topics in Scandinavian Philology II (PR)/*D. McDougall, I. McDougall*
MST 2018H Old Norse Legendary Sagas (PR)/*A. Orchard*
MST 2021H Literacy in the Medieval Celtic World/*A. Orchard*
MST 2022H Literacy in the Medieval Germanic World/*A. Orchard*
MST 2025H HeroicVerse/*A. Orchard*
MST 2026H Heroic Prose/*A. Orchard*
MST 2030Y Old and Middle Irish/*A. Dooley*
MST 2031H Early Irish Saga: *Táin Bó Cuailnge* (PR)/*A. Dooley*
MST 2033H An Introduction to Early Irish Poetry (PR)/*A. Dooley*
MST 2034H Celtic Latin Philology (PR)/ *M. Herren*
MST 2035H Celtic-Latin Literature (PR)/ *A. Orchard*
MST 2037H Early Celtic Christianity/*M. Herren*
MST 2040Y Medieval Rhetoric and Poetics (PR)/*J. Ross*
MST 2050Y Middle Welsh/*D. N. Klausner*
MST 2055Y Studies in Middle Welsh Texts (PR)/*D. N. Klausner*
MST 3018H The Classical Tradition in the Middle Ages I: the Transmission of Texts and the Ancient Curriculum (PR)/*M. Herren*
MST 3019H The Classical Tradition in the Middle Ages II: Mythography (PR)/*M. Herren*
MST 3021H Boethius (PR)/*J. Magee*
MST 3035H Alexander Neckam: Life and Works (PR)/*C. J. McDonough*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit
(PR) Courses with prerequisites

MST 3101H Current Theory and Medieval Texts: An Introduction/ *D. Townsend*
MST 3105H Teaching and Transmitting Poetry in the Early Medieval Period/ *A. Orchard*
MST 3107H Classical Monsters in Early Medieval Contexts/*A. Orchard*
MST 3111H Female Spirituality in Late Medieval England: Practices, Practitioners, and Texts/*A. Hutchison*
MST 3121H English Mystics of the Late Middle Ages: Texts, Context and Audience/*A. M. Hutchison*
MST 3125H Narrative Strategies in the Middle English Literature of Pastoral Care I (PR)/*A. M. Hutchison, G. Trudel*
MST 3126H Narrative Strategies in the Middle English Literature of Pastoral Care II (PR)/*A. M. Hutchinson, G. Trudel*
MST 3140Y Medieval Catalan Language and Literature/*J. Ross*
MST 3161H European Literature and the Third Estate/*W. Robins*
MST 3201H Medieval Social History, 1000-1500/*M. Meyerson*
MST 3205Y Violence in Medieval Society (joint graduate/undergraduate)/ *M. Meyerson*
MST 3210H Medieval Spain, ca. 1000-1300 (PR)/*M. Meyerson*
MST 3225H Jews and Christians in Medieval and Renaissance Europe/ *M. Meyerson*
MST 3259H Medieval Monastic Culture: Lands of St. Benedict/*V. Brown*
MST 3261H Cluny in the Central Middle Ages/ *I. Cochelin*
MST 3265H Hagiographies (PR)/*I. Cochelin*
MST 3301H Themes in Medieval Philosophy/ *D. Black*
MST 3320H Thomistic Epistemology/*D. Black*
MST 3321H Philosophy of Mind in the Middle Ages/*D. Black*
MST 3340H Imagination in Medieval Philosophy/*D. Black*
MST 3346H Medieval Islamic Philosophy/ *D. Black*
MST 3401H Introduction to Medieval Christianity/*R. Sinkewicz*
MST 3405H Early Christian Monasticism/ *R. Sinkewicz*
MST 3415H John Cassian and Early Monasticism in Gaul/*R. E. Sinkewicz*
MST 3421H The Thought of Thomas Aquinas (PR)/*J. Pilsner*
MST 3480Y Uses of the Bible in the Middle Ages (PR)/*G. Dinkova-Bruun*
MST 3501H Introduction to the Medieval Christian Liturgy/*A. Hughes*
MST 3505H Liturgical Readings (PR)/ *A. Hughes*
MST 3511H Topics in Medieval Music (PR)/ *A. Hughes*
MST 3601H Material Culture of the Middle Ages, Part I, A.D. 200-1000/ *S. Campbell*
MST 3602H Material Culture of the Middle Ages, Part II, A.D. 1000-1500/ *S. Campbell*
MST 3605H Archaeology and the Saints/ *S. Campbell*
MST 3611H Early Christian and Byzantine Mosaics (PR)/*S. Campbell*
MST 9310Y,H Directed Reading/*Staff*
MST 9315Y,H Directed Reading/*Staff*

***Music***

MUS 1018H Plainchant: Ornament and Structure/*A. Hughes*
MUS 1123H The Renaissance Idea of Music/ *W. Bowen*

***Near and Middle Eastern Civilizations***

NMC 1311Y Post-Biblical Hebrew: Mishnah and Midrashim/*H. Fox*
NMC 1324Y Hebrew Legal Codes, Medieval and Modern/*H. Fox*
NMC 1325Y Medieval and Modern Hebrew Literature: Belletristic Texts/*Staff*
NMC 1326Y Topics in Midrashic Literature/ *Staff*
NMC 1500Y Archaeology, from Alexander to Muhammad/*E. J. Keall*
NMC 2090Y Islamic History to the Fall of Baghdad/*L. Northrup*
NMC 2112Y Medieval Islamic Institutions/ *L. Northrup*
NMC 2119Y Readings in Medieval Arabic Historical and Documentary Sources/*L. S. Northrup*
NMC 2131Y Ethics and Education in Medieval Arabic Texts/*S. Günther*
NMC 2132H Hadith: Classical Religious Literature in Islam/*S. Günther*
NMC 2133H Medieval Arabic Sources on Islamic Thought/*S. Günther*
NMC 2135H Story-tellers, Travellers and Warriors in Medieval Arabic Literature/*S. Günther*
NMC 2221Y Medieval Persian Ethical and Advice Literature/*M. E. Subtelny*

(PR) Courses with prerequisites

NMC 2222Y Persian Mystical Poetry/ *M. E. Subtelny*
NMC 2226Y Readings in Medieval Persian Historical and Documentary Sources/*M. E. Subtelny*
NMC 2310Y Ottoman History to 1800/*J. R. Blackburn*
NMC 2315Y Seminar in Topics from Ottoman History/*J. R. Blackburn*
NMC 2500H Early Islamic Art and Architecture/*L. V. Golombek*
NMC 2515Y The Islamic City/*E. J. Keall*
NMC 2520H Western Medieval Islamic Architecture/*L. V. Golombek*
NMC 2521H The Taj Mahal and Its Origins: Medieval Islamic Architecture in Iran, Central Asia, and India/ *L. V. Golombek*
NMC 2526H Islamic Painting/*L. V. Golombek*
NMC 2527H Islamic Decorative Arts/*L. V. Golombek*
NMC 2540Y Islamic Archaeology/*E. J. Keall*

***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/ *J. H. Corbett*
RLG 3224Y Early Eastern Christianity/*J. H. Corbett*
RLG 3225Y Early Churches in Cross-Cultural Perspective/*J. Corbett*
RLG 3653Y Jewish Exegetical Traditions in Antiquity/*H. Fox*
RLG 3941Y Celtic Mythology/*A. Dooley*

***Slavic Languages and Literatures***
SLA 1104Y Old Church Slavonic/*J. Schallert*

***Spanish***
SPA 2016H Medieval Spanish Narrative I/ *J. F. Burke*
SPA 2021H The Politics of Print/*J. Blackmore*
SPA 2025H Conquest and Chronicle: Writing, Reading, Making the New World/*J. Blackmore*

# Molecular and Medical Genetics MMG

## Graduate Faculty

### Full Members

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I. L. Andrulis, BA, PhD
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G. L. Boulianne, BSc, PhD
J. Brill, BA, PhD
M. Brown, BSc, MSc, PhD
B. Bruneau, BSc, PhD
M. Buchwald, AB, PhD
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D. Durocher, BSc, PhD
A. Edwards, BSc, PhD
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T. Hughes, BM, BSE, PhD
C. -C. Hui, BSc, MPhil, DSc
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H. Krause, BSc, PhD
S. Lewis, BSc, PhD
H. D. Lipshitz, BSc, MPhil, PhD
J. Liu, BSc, PhD
R. R. McInnes, BSc, MD, PhD
M. S. Meyn, MD, PhD
M. F. Moran, BSc, PhD
A. Nagy, BA, MA, PhD
L. Osborne, BSc, MSc, PhD
E. F. Pai, DrRerNat, Canada Research Chair
A. J. Pawson, BA, PhD, University Professor
C. Pearson, BSc, PhD
M. D. Perry, AB, PhD
P. Ray, BSc, MSc, PhD
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J. M. Segall, BSc, PhD
M. J. Shulman, AB, PhD
F. Sicheri, BSc, PhD
K. A. Siminovitch, MD, FRCP(C)
A. M. Spence, BSc, PhD
B. Steipe, MD, PhD
L.-C. Tsui, PhD, University Professor
M. D. Tyers, BSc, PhD, Canada Research Chair
A. Wilde, PhD
J. Wrana, BSc, PhD
M. Zhen, BSc, PhD, Canada Research Chair

### Members Emeriti

A. J. Becker, MD, PhD
J. P. Carver, BA, PhD
C. R. Fuerst, BSc, MSc, PhD
M. Gold, BA, PhD
J. J. Krepinsky, BSc, PhD
H. Murialdo, MSc, PhD
J. L. Penner, MSc, PhD
P. L. Seyfried, MSA, PhD
L. Siminovitch, BSc, PhD, DSc Hon Causa, University Professor Emeritus
M. Thompson, BA, PhD

### Associate Members

K. Ashman, BSc, MSc, PhD
R. Babul-Hirji, MSc
D. Chitayat, MD
J. T. R. Clarke, MD, PhD
J. Cuticchia, BA, PhD
C. S. Cytrynbaum, BSc, MS, CGC, ABGC
H. Druker, BSc, MSc
L. Dupuis, MSc
A. S. J. Feigenbaum, MD, CHB, FRCP(C)
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L. Steele, BSc, MSc
J. E. Sutherland, MS
C. Tailor, BSc, PhD
A. Teebi, MD
I. E. Teshima, BSc, MSc, PhD, FCCMG, FACMG
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The Department of Molecular and Medical 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 Department offers 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 concerning these areas, see the Web site listed above.

## Degree Programs in Molecular and Medical Genetics

The Department offers both the Master of Science and the Doctor of Philosophy degrees and prefers to accept students with excellent academic credentials in molecular biology, genetics, microbiology, and/or biochemistry who wish to proceed to the Ph.D. and beyond. It should be noted that admission to the Ph.D. program is highly selective and attainment of minimal standing as an M.Sc. student does not guarantee admission to the Ph.D. program.

## Degree of Master of Science

### *Admission Requirements*

Candidates with a B.Sc. or M.D. degree or equivalent are usually accepted into the M.Sc. program. See "Degree of Doctor of Philosophy" below for transfer or admission to the Ph.D. program.

### *Residence Requirements*

Candidates entering the M.Sc. program are required to spend 12 months in full-time attendance.

### *Program Requirements*

Candidates in the master's program must complete MMG 1012H° (or equivalent) and MMG 1015Y° (seminar course), and a thesis on a research project. To qualify for the degree, the student must defend the thesis at an oral examination.

## Degree of Doctor of Philosophy

### *Admission Requirements*

There are three possible routes to the Ph.D. degree:

**1** Students may reclassify to the Ph.D. program during the first or second year in the M.Sc. program.

**2** Students may be accepted into the Ph.D. program with a completed M.Sc. degree or equivalent from the University of Toronto or another recognized university.

**3** Under exceptional circumstances, outstanding students with a B.Sc. degree, an M.D. degree, or equivalent, may be accepted directly into the Ph.D. program.

### *Residence Requirements*

Candidates 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. Candidates entering the doctoral program from a bachelor's program are required to spend a minimum of three sessions in full-time attendance.

### *Program Requirements*

Candidates in the doctoral program must complete courses equivalent to those required for the M.Sc. degree plus MMG 1016H° (or equivalent), MMG 1017H°, and a thesis on a research project.

°Course which may continue over a program. The course is graded when completed.

***Courses of Instruction***

JBB 1425H Biophysical Methods/*Staff*
JBB 2025H Protein Crystallography/*J. M. Rini, Staff*
JDB 1025Y Developmental Biology/ *A. Spence*
MMG 1012H° Topics in Molecular and Medical Genetics I (formerly MMG 1012Y°)/*R. Collins, Staff*
MMG 1015Y° Seminar/*B. Andrews, F. Sicheri*
MMG 1016H° Topics in Molecular and Medical Genetics II (formerly MMG 1014Y°)/*R. Collins, Staff*
MMG 1017H° Topics in Molecular and Medical Genetics III/*R. Collins, Staff*
MMG 1420H* Regulation of Gene Expression/ *J. M. Segall*
MMG 1425H Signal Transduction and Cell Cycle Regulation/*Staff*
MMG 1451H* Genetic Analysis of Development: Yeast and Worms/ *H. Krause*

***Note****:* Effective September 1, 2001, MMG 1012Y and MMG 1014Y will be replaced by MMG 1012H and MMG 1016H. Students enrolled previously in MMG 1012Y and MMG 1014Y will continue to take them.

**Degree of Master of Science in Genetic Counselling**

The Master of Science degree in genetic counselling is a full-time professional program that prepares students with the academic and clinical skills to provide genetic counselling. Genetic counselling is the provision of information to individuals and families regarding the occurrence, or risk of occurrence, of a genetic disorder or birth defect. 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. The ability to define and address the psychosocial issues associated with a genetic disorder in a family is central to the practice of genetic counselling. This field also incorporates teaching, administrative, and research skills, and these are integrated in the curriculum.

This program has been accredited by the American Board of Genetic Counseling under the Recognized New Program Status as a graduate level training program.

***Admission Requirements***

Candidates for admission must have completed a 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. Additional requirements include 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 will be sought in both the application and interview processes. Conditional acceptance may be granted to outstanding candidates lacking the above prerequisite courses; in such instances, the courses deemed necessary must be completed with a B+ standing prior to admission.

***Residence Requirements***

Candidates entering the M.Sc. program in genetic counselling will be required to spend 18 months over a 2-year period in full-time attendance. Students will be encouraged to organize an intervening summer rotation in a geographic location of their choice.

***Program Requirements***

Candidates must complete all required course work, 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.

***Required Courses of Instruction***

MSC 1020H Molecular Approaches to Health and Disease/*D.M. Clarke, K. Siminovitch*
MSC 2010H Advanced Concepts in Human Genetic Disease/*D. Hogg*
MMG 1120Y Clinical Rotations I/*D. Chitayat, C. Shuman*
MMG 1122Y Issues in Genetic Counselling I/ *M. Thomas*
MMG 1124Y Principles of Effective Counselling/*R. Babul-Hirji*

*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.

MMG 1126Y Clinical Issues in Pregnancy and Child Development/ *C. Cytrynbaum*
MMG 1128Y Risk Calculation and Research Methodology/*S. Kennedy, J. Sutherland*
MMG 1130Y Tutorial in Molecular Genetics/ *L. Dupuis*
MMG 1132H Laboratory Skills/*G. Rosenberg*
MMG 1220Y Clinical Rotations II/*D. Chitayat, C. Shuman*
MMG 1222Y Issues in Genetic Counselling II/ *C. Shuman*
MMG 1224Y Advanced Principles of Effective Counselling/*C. Cytrynbaum*
MMG 1226Y Concepts in Clinical Genetics/ *D. Chitayat, J. Clarke, C. Shuman*
MMG 1228Y Independent Research Project/ *D. Chitayat, C. Shuman*
MMG1230H Cancer Genetic Counselling/ *H. Druker*

# Museum Studies MSL

## Graduate Faculty

### Full Members

J. C. Barlow, BA. MA, PhD/Zoology
K. R. Bartlett, BA, MA, PhD/History
B. S. Hall, BA, PhD/IHPST
A. D. Hood, BA, MA, PhD/History
***(Associate Director and Coordinator of Graduate Studies)***
E. M. M. Legge, BA, MA, PhD/History of Art
T. H. Levere, BA, MA, DPhil, DLitt, FRSC/IHPST
E. Pedretti, BSc, BEd, MEd, PhD/Curriculum Teaching and Learning
D. T. Ruddel, BA, MA, PhD
***(Director)***
A. Stanbridge, MA, PhD
J. L. Teather, BA, MA, PhD

### Members Emeriti

C. S. Churcher, MSc, PhD
U. M. Franklin, PhD, LLD, DSc, DDN, CC, FRSC, University Professor Emeritus
T. C. Young, Jr., BA, PhD

### Associate Members

S. Elliott, BSc
S. Falconer, MMst
I. Gregory, RGD
J.-P. Hardy, BA, MA, PhD
K. Heard, BA
T. G. Heath, DPhil
S. Maltby, MAC
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*E-mail:* museum.studies@utoronto.ca
*Web:* www.utoronto.ca/museum

The aim of the Museum Studies Program is to provide graduates with a suitable combination of academic and practical education in preparation for future involvement in a museum, art gallery, or related cultural institution or agency. To that end, the Program examines the theoretical body of knowledge of museology, balanced by a substantial amount of practical experience and an internship at an appropriate museum, art gallery, or related organization. Although the academic area of concentration is that of museum studies, students also take courses in museum-related disciplines such as history, history of art, anthropology, history and philosophy of science and technology, natural sciences, education, or management.

The Program is assisted by individual professional members of the museum community in Canada or abroad, as well as a range of museums, galleries, and associations in Toronto and afield.

## Degree of Master of Museum Studies

*Admission Requirements*

**1** All applicants to the Program must have a four-year University of Toronto B.A., or its equivalent, with at least a B+ standing to be considered for admission.
**2** Previous experience and/or demonstrated interest in museums, art galleries, or related cultural organizations is also considered.
**3** In addition to the application and transcripts submitted to the School of Graduate Studies, the following documentation must be sent to Museum Studies:
**a** applicant's statement of intent
**b** a résumé
**c** three letters of recommendation
All completed applications must be received by **January 15**. Applicants will automatically be considered for University of Toronto Open Fellowships.

*Program Requirements*

**1** The program of study, beginning in September, will normally extend over 24 consecutive months during which the student is full-time. A limited number of students may be accepted into the program for part-time study.
**2** Candidates are supervised by the Program Committee.
**3** The Program consists of 8.5 full-course equivalents (FCEs), as follows. A summer internship is included. The exhibition and management courses are taken in the second year.
**a** Required courses totalling five FCEs. All students must complete the following core courses: MSL 1100H, MSL 1200H, MSL 2100H, MSL 2200H, MSL 3000Y, MSL 5000Y, and MSL 5002Y.
**b** Elective courses totalling one FCE (2 half-courses) selected from courses offered within Museum Studies.
**c** External elective courses totalling 2.5 FCEs completed in other graduate units at the University. Students with appropriate graduate

degrees may be granted advanced standing for up to 1.5 of the required 2.5 external FCEs. This applies only if candidates are pursuing work in the same cognate department of specialization within their Museum Studies Program as they did in their previous graduate program.

**4** Candidates will be required to demonstrate a reading knowledge of a second language, normally French, before the end of their first year.

**Courses of Instruction**

Details about course offerings are available from the Museum Studies Program Web site www.utoronto.ca/museum.

***Core Courses***

MSL 1100H Introduction to Museolgy and Material Culture
MSL 1200H Introduction to Museology and Public History
MSL 2100H Museum and Gallery Management
MSL 2100H Museum and Gallery Management
MSL 2200H Museum Communication and Public Programs
MSL 3000Y Internship: a three-month internship at a cultural institution co-operating with the Program, usually taking place during May-August between the first and second years of study (CR/NCR)
MSL 5000Y Research Paper: a paper on a museum studies subject, supervised by Museum Studies and University faculty with the assistance of a committee established to examine the proposals
MSL 5002Y Exhibition Project: the preparation and production of an exhibition at the Library or at another institution (CR/NCR)

***Elective Courses***

MSL 1020H Museum Environment
MSL 1250H Contemporary Theories of Art and Culture
MSL 2010H Curatorial Practice
MSL 2030H History of Museums
MSL 2040H Topics on Museums and Society
MSL 5001H Special Studies

***External Elective Courses***

See the Database of Electives in the Resource Centre at the Museum Studies Program.

(CR/NCR) Credit/No Credit

# Music MUS

## Graduate Faculty

### Full Members

W. Aide, BSc, ARCT, LRCT, Rupert E. Edwards Chair in Piano
L. R. Bartel, BA, BMus, MEd, PhD
D. Beach, BA, MusM, PhD
***(Chair)***
W. R. Bowen, BA, BMus, MA, PhD
K. N. Chan, BASc, BMus, MMus, MusD
C. L. Clark, BMus, MA, PhD
L.-A. Dolloff, MusB, PhD
D. J. Elliott, BEd, BMus, MMus, PhD
R. Elliott, PhD, Chalmers Chair in Canadian Music
R. A. Falck, BMus, MFA, PhD
J. Haines, PhD, Canada Research Chair
C. Hatzis, MM, PhD
J. Hawkins, BM, MM
A. Hughes, MA, DPhil, University Professor
G. S. Johnston, BMus, MA, PhD
G. Jones, BA, MA, PhD
J. R. Kippen, BA, PhD
G. Kulesha, ARCT, AMusTCL
E. C. Laufer, MusBac, MFA, MusM
L. MacDonald, BME, MM, Lois Marshall Chair in Voice
J. Mayo, MA, PhD
M. A. Parker, BA, MM, PhD, ARCT
***(Coordinator of Graduate Studies)***
D. Rao, BS, MM, PhD, Elmer Iseler Chair in Conducting
P. M. M. Shand, BA, MMus, EdD, ARCT
C. K. Walter, BMus, MMus, EdD

### Members Emeriti

J. Beckwith, CM, MMus, MusDoc
W. Buczynski, ARCT
S. Chenette, BMus, MFA
G. Ciamaga, MFA
D. Holman, DMus
L. Klein, MS, PhD
M. R. Maniates, MA, PhD
T. McGee, BME, MA, PhD
C. R. Morey, BMus, MM, PhD, ARCT
P. R. Pedersen, BA, MMus, PhD
J. Weinzweig, OC, O Ont, MM, MusD, LLD

### Associate Members

M. Albano
R. Armenian, BS
D. Edwards, MMus, DMA
D. Grant, PhD
M. E. Haines, MMus
J. R. Hartenberger, BMus, MMus, PhD
S. Horst, MM
J. Kruspe, MusBac
D. Loeb
C. A. Loewen, MM
M. Morrison, ArtDip
M. Orlov, MAPerf
S. Ralls, MA, LRAM
A. Rapoport, MusDoc
P. E. Read, BEd, MusBac, MusM
J. Reynolds, BA, BMus, MMus, MA, PhD
S. Rolston, BA, MM
M. Sallmen, MA, PhD
S. St. John, BMus
A. Stanbridge, MA, PhD

### Performance Instructors

Consult the faculty list in the Faculty of Music Calendar.

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*Fax:* (416) 978-5771
*E-mail:* grad.music@utoronto.ca
*Web:* www.utoronto.ca/music/

## Degree of Master of Arts

### *Admission Requirements*

The M.A. is offered only in musicology/theory. Candidates are accepted under the general regulations. A candidate from this University with an average standing of mid-B or better over the final two years of the Bachelor of Arts specialist program in music or the Bachelor of Music program, or with equivalent standing from another university, will be eligible to apply. 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*

M.A. candidates are admitted to a 2-session program and are required to take a minimum of 12 half-courses or equivalent. The Graduate Coordinator will advise students on course selection to establish a balance between the student's interests and any perceived weaknesses in background preparation. All students will take MUS 1000H/1001H *Introduction to Music Research I/II* in the first year. Elective courses may be taken in historical musicology, ethnomusicology, and/or music theory. With the consent of the Department, up to one full-course equivalent may be taken in a graduate department other than music.

One language other than English is required. This will ordinarily be German except by petition to the Department. Students should fulfill the language requirement during the first year of the program. Any student wishing to petition for a language other than German must do so during the first year.

## Degree of Master of Music

### *Admission Requirements*

**1** The degree of Master of Music (Mus.M.) is offered in composition, in music education, and in performance.

**2** Applicants must hold the 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.

**3** Applicants in *composition* must submit several original compositions, at least one of which shall be with moderately large instrumentation.

Applicants in music *education* will normally be required to have had 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 (an assigned essay may be substituted for the interview with faculty approval). Appropriate letters of reference commenting on professional performance and promise are also required.

Applicants in *performance* must pass an audition. Applications will be accepted in the following areas: conducting, instrumental, vocal, piano performance with concentration in vocal and instrumental chamber music, performance with concentration in historical performance, and opera.

### *Program Requirements*

**1** Composition: A minimum of six full courses taken over two years is required for the degree, including MUS 3100Y and its continuation MUS 3105Y. Candidates may be required to take additional courses based on the results of diagnostic tests in musical analysis, counterpoint, and harmony given upon entrance. Under the guidance of an advisor, 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.

**2** Music Education: Candidates may proceed to the degree through a program of either full-time or part-time study. Eight half-course equivalents are required for the degree. Candidates must select a minimum of five half-course equivalents in music education, including MUS 2111H *Research Methods in Music Education* and MUS 2151H *Philosophical Foundations of Music Education*. Elective courses may be chosen from the M.A./Ph.D./Mus.M./Mus.Doc. 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 one full course with the approval of the Department. All candidates must pass a comprehensive examination in music education (written and oral). A description of the degree requirements and courses is available on request.

**3** Performance (instrumental/vocal): In addition to applied instruction (24 lessons per year for 2 years) and two recitals, four full courses or equivalent are required. These must include one full course in music literature (MUS 4200Y, normally taken in the first year), and two half-courses selected from: MUS 4600H or MUS 4606H; MUS 4610H; MUS 4615H. Recitals may include a chamber music component with the approval of the Department.

Performance (opera): In addition to applied instruction (24 lessons per year for 2 years), four full courses are required. These include one full course in music literature (MUS 4200Y, taken in the first year), Advanced Performance Studies (MUS 4620Y, taken in the second year) and two full courses in Operatic Studies (MUS 4900Y and MUS 4901Y). Performance in operatic productions will be evaluated by a committee and assigned grades under Operatic Roles I (MUS 4966Y) and Operatic Roles II (MUS 4988Y).

Performance (conducting): In addition to two public performances, six full courses or equivalent are required. These must include one full course in music literature (MUS 4200Y, normally taken in the first year) and two half-courses selected from: MUS 4600H or MUS 4606H; MUS 4610H; MUS 4615H. Instrumental conducting majors must also complete MUS 4220H, MUS 4221H, MUS 4222Y, MUS 4223H, and MUS 4700H (choral). Choral conducting majors must also complete MUS 4223H, MUS 4224H, MUS 4225Y, MUS 4220H, and MUS 4700H (choral).

**4** All requirements for the degree must be completed within five years of first enrolment.

## Degree of Doctor of Philosophy in Musicology

### *Admission Requirements*

This is a research degree. Candidates must hold a master's degree with specialization in musicology and must have an average standing of B+ or better. Applicants must submit as a part of their application an 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.

### *Program Requirements*

The Ph.D. is designed to be a four-year program, but in some circumstances five years may be necessary.

**1** A minimum of 1.5 full-course equivalents beyond the M.A. is required, including:
**a** the Ph.D. Seminar
**b** Research in Musicology
**c** a choice from the departmental list.
With permission, a candidate may substitute a graduate course from outside the Department for **c**. Additional courses above the minimum requirement may be recommended, as need dictates.

**2** A minimum of one year of residency is required, and the total maximum program length is six years.

**3** The Ph.D. is offered in four general areas:
**a** historical musicology
**b** ethnomusicology
**c** theory
**d** interdisciplinary
As early as possible in the first year, the candidate will identify an area of study, begin discussions with a principal advisor, and assemble an advisory committee of at least three members (including the advisor as chair) in consultation with the Department. By December of the second year, the thesis proposal must be submitted for approval by the musicology/theory members of the Department. The committee will meet with the candidate at least two times each academic year. The committee is charged with examining the major field and with ascertaining the preparedness of the candidate to carry out research on the thesis topic, including background knowledge, language, or any matters that the committee deems important. The committee may require further study, course work, or special preparation by the candidate. All aspects of background, preparation, and development of the thesis will be monitored by the committee. In the event of unsatisfactory work by the candidate, the committee may recommend termination of candidacy.

**4** The candidate will prepare a thesis under the direction of an advisor and a committee, and will defend the thesis at a final examination. The thesis, including bibliography and appendices but excluding musical examples, should not exceed 75,000 words. The Department will not consider a thesis that exceeds 100,000 words.

## Degree of Doctor of Philosophy in Music Education

### *Admission Requirements*

Candidates 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. Candidates must provide their results on the Miller Analogies Test. At the discretion of the faculty, candidates may be required to provide a videotape of their teaching expertise. Appropriate letters of reference commenting on the candidate's teaching experience, music performance ability, and academic ability are also required.

### *Program Requirements*

**1** A total of six full-course equivalents is required. At the discretion of the Department the candidate may receive credit for up to three full-course equivalents from an acceptable master's degree program. At least two full-course equivalents (including MUS 2995Y *Music Education Doctoral Research Project*) must be taken from the departmental offerings in music education. The balance of the candidate's required program must be approved by the Department and may include courses from the M.A./Mus.M./Ph.D./Mus.Doc. list and/or from another department in the School of Graduate Studies.

**2** Candidates must be registered full time, on campus for a minimum of two terms, in order to be in such geographical proximity as to be able to participate fully in the Department's activities associated with the program.

**3** As early as possible in the second year the candidate will submit a thesis proposal which must be approved by the end of that year. On approval of the proposal by the music education division of the Department, a principal advisor and an advisory committee of at least three members (including the advisor as chair) will be appointed. The committee will meet with the

candidate at least two times each academic year.
**4** Language requirements, if any, will be established by the student's advisory committee, based on specific research needs.
**5** Upon successful completion of the comprehensive examination, the candidate proceeds to complete:
**a** an oral defence of the thesis proposal,
**b** a thesis under the direction of an advisor, and
**c** an oral defence of the thesis at a final examination.

## Degree of Doctor of Music

### *Admission Requirements*

The Doctor of Music (Mus.Doc.) is a doctoral program in composition. An applicant must hold the degree of Master of Music in composition of this University or its equivalent from another university with an average standing of B+ or better. Two or more extended compositions in various media and a tape of at least one of these works must be submitted together with the application and complete academic credentials by January 15 of the year of intended enrolment.

### *Program Requirements*

**1** Students must take a minimum of four full-course equivalents, including MUS 3300Y and MUS 3305Y, and a full-course equivalent in advanced analysis/research chosen in consultation with the advisory committee. A minimum of one year of residency is required. 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 the 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 performances totalling the equivalent of a full recital may be substituted.
**2** The thesis for the Doctor of Music shall be an extended composition approved by the Department, prepared under the supervision of an advisory committee and defended at the final oral examination.
**3** Candidates must be registered full time on campus during the first session of the Mus.Doc. program in order to be in such geographical proximity as to be able to participate fully in the Department's activities associated with the program.
**4** Candidates must complete all requirements for the Mus.Doc. within six years.

## Courses of Instruction

Final course offerings may vary. Students should consult the departmental handbook.

### *M.A./Ph.D. in Musicology*

MUS 1000H Introduction to Music Research I/ *G. Jones*
MUS 1001H Introduction to Music Research II/ *J. Mayo*
MUS 1013H Monteverdi's Madrigals/ *G. Johnston*
MUS 1018H Plainchant: Ornament and Structure/*A. Hughes*
MUS 1052H The Macabre in Music/*G. Jones*
MUS 1057H Chamber Music of the Second Viennese School/*R. Falck*
MUS 1062H Music and Discourse/ *A. Stanbridge*
MUS 1123H The Renaissance Idea of Music/ *W. Bowen*
MUS 1202H Music of the Mid-Eighteenth Century/*M. Parker*
MUS 1203H Interdisciplinary Approaches to Opera/*C. Clark*
MUS 1250H Ph.D. Seminar/*R. Falck*
MUS 1900H Seminar in Ethno-musicology*J. Kippen*
MUS 1990H M.A. Major Paper
MUS 1998H Individual Reading and Research
MUS 1999H Research in Musicology

### *Mus.M./Ph.D. in Music Education*

MUS 2000H Psychology of Music Education/ *D. Elliott*
MUS 2001H Music in Cultural Perspective/ *D. Elliott*
MUS 2004H Music in Childhood/*L. Dolloff*
MUS 2111H Research Methods in Music Education
MUS 2121H Music in Higher Education/ *L. Dolloff*
MUS 2151H Philosophical Foundations of Music Education
MUS 2165H Music Cognition/*D. Elliott*
MUS 2180H Seminar in Canadian Music Education/*P. Shand*
MUS 2181H Issues and Techniques in Evaluation of Music Education/*L. Bartel*
MUS 2182H Issues in Music Education
MUS 2199H Special Topics in Music Education
MUS 2203H The Development of Wind Band/ *D. Grant*
MUS 2222H Choral Literature and Conducting/ *D. Rao*
MUS 2990Y Mus.M. Major Essay (Music Education)
MUS 2995Y Music Education Doctoral Research Project

***Mus.M./Mus.Doc. in Composition***

MUS 3100Y Mus.M. Advanced Composition I
MUS 3101H Seminar in Schenkerian Analysis I
MUS 3102H Seminar in Schenkerian Analysis II
MUS 3105Y Mus.M. Advanced Composition II
MUS 3230H Music of Messiaen, Schnittke, and Pärt/*K. Chan*
MUS 3300Y Mus.Doc. Advanced Composition I
MUS 3305Y Mus.Doc. Advanced Composition II
MUS 3306H Music Theory Pedagogy/ *M. Sallmen*
MUS 3404H Extended Tonal Techniques in Twentieth-Century Music/ *M. Sallmen*
MUS 3420H Composing for Percussion/ *C. Hatzis*
MUS 3800Y Electroacoustic Music/*C. Hatzis*
MUS 3801Y Advanced Electroacoustic Composition/*C. Hatzis*
MUS 3888Y Mus.Doc. Recital of Works
MUS 3999Y Research Project (Mus.Doc.)

***Mus.M. in Performance***

MUS 4200Y Seminar in Music Literature
MUS 4211H Advanced Mélodie/*D. Loeb*
MUS 4212H Advanced Vocal Repertoire Study/*C. Loewen*
MUS 4220H Instrumental Conducting I/ *R. Armenian*
MUS 4221H Instrumental Conducting II/ *R. Armenian*
MUS 4222Y Advanced Instrumental Conducting/*R. Armenian*
MUS 4223H Choral Conducting I/*D. Rao*
MUS 4224H Choral Conducting II/*D. Rao*
MUS 4225Y Advanced Choral Conducting/ *D. Rao*
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/*J. Kruspe*
MUS 4615H Analysis and Performance Practices of Twentieth-Century Music/*J. Hawkins*
MUS 4620Y Advanced Performance Studies/ *L. MacDonald*
MUS 4700H Performance: Major Ensemble I
MUS 4701H Performance: Major Ensemble II
MUS 4702H Performance: Major Ensemble III
MUS 4703H Performance: Major Ensemble IV
MUS 4710H Performance: Chamber Music I
MUS 4711H Performance: Chamber Music II
MUS 4712H Performance: Chamber Music III
MUS 4713H Performance: Chamber Music IV
MUS 4720H Performance: Opera I
MUS 4721H Performance: Opera II
MUS 4722H Performance: Opera III
MUS 4723H Performance: Opera IV
MUS 4730H Performance Studies I
MUS 4731H Performance Studies II
MUS 4732H Performance Studies III
MUS 4733H Performance Studies IV
MUS 4900Y Operatic Studies I/*S. Ralls*
MUS 4901Y Operatic Studies II/*S. Ralls*
MUS 4966Y Operatic Roles I
MUS 4988Y Operatic Roles II
MUS 6666Y Recital I
MUS 8888Y Recital II

***Courses recognized for Mus.M. in Performance and M.A.* graduate credit***

MUS 1030H Topics in Romantic Music/ *G. Jones*
MUS 1040H Topics in Medieval Music/ *A. Hughes*
MUS 1090H Topics in Ethnomusicology/ *J. Kippen*

**Available to M.A. students only with the permission of the Department*

# Near and Middle Eastern Civilizations NMC

## Graduate Faculty

### Full Members

V. H. Aksan, PhD
J. R. Blackburn, MA, PhD
P.M. Daviau, MA, PhD
H. Fox, BA, BSc, MA, MS, PhD
G. Frame, MA, PhD
D. R. Frayne, MA, PhD
L. V. Golombek, MA, PhD
K. A. Grzymski, MA, PhD
S. Günther, PhD
A. Harrak, MA, PhD
***(Coordinator of Graduate Studies)***
T.P. Harrison, BA, PhD
E. J. Keall, BA, PhD
P. W. T. Kingston, BA, MA, MPhil, DPhil
R. J. Leprohon, BA, PhD
T. Meacham, BA, MA, PhD
L. S. Northrup, BA, MA, PhD
V. Ostapchuk, BA, PhD
J. B. Peckham, BA, PhL, PhD
J. A. Reilly, BA, MA, PhD
***(Chair)***
M. E. Subtelny, BA, PhD
J. G. Taylor, BA, MTh, MPhil, PhD

### Members Emeriti

E. Birnbaum, BA, DipOAS
P. E. Dion, BA, PhD, LTh
A. K. Grayson, BA, MA, PhD, FRSC
J. S. Holladay, Jr., BD, TD
A. Jwaideh, MA, BLitt, DPhil
M. E. Marmura, MA, PhD, FRSC
N. B. Millet, MA, PhD
A. Pietersma, BA, BD, PhD
E. J. Revell, MA, PhD, FRSC
R. Sandler, BA, MA, PhD
R. M. Savory, PhD, FRSC
R. F. G. Sweet, MA, PhD
J. W. Wevers, BA, ThB, ThD, FRSC
G. M. Wickens, MA, FRSC, University Professor Emeritus
T. C. Young, Jr., BA, PhD

### Associate Members

R. al-Sayyid
A. Hassanpour, BA, MA, PhD
R. T. Lutz, BA, MA
R. B. Mason, BA, PhD
W. Saleh, BA, MA, PhD
M. A. Wegner, BA

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Candidates are accepted under the general regulations provided that they also satisfy the departmental requirements for each of the degree programs listed below. Two letters of reference are required and should be sent directly to the Coordinator of Graduate Studies for the Department. All applicants must also submit a statement of academic intent to the Coordinator of Graduate Studies.

Candidates for admission to either the M.A. or Ph.D. program must submit their applications for admission by January 15. No separate fellowship application is required. Later applications will be considered only in exceptional circumstances.

Students applying for admission to the doctoral stream (presently defined as Ph.D. years one to four) will automatically be considered for funding as will continuing doctoral stream students. The funding package includes a minimum basic stipend and fees. Funding is guaranteed for at least four years on the condition that eligibility requirements as outlined in the departmental and SGS awards policies are met. The package may comprise a variety of components such as major external awards, major internal awards, Teaching Assistantships, Research Assistantships, and University of Toronto Fellowships. Presently M.A. students are not normally included in the funded cohort; therefore, M.A. students should seek funding from other sources.

Besides offering degree programs in Near and Middle Eastern Civilizations, the Department participates in two collaborative programs: Ancient Studies and Women's Studies. For more information on these programs, see the separate entries in this calendar.

Graduate students in the Department of History who are interested in Islamic and Middle Eastern history from medieval to modern times may take courses in Near and Middle Eastern Civilizations and work under the supervision of Near and Middle Eastern Civilizations historians.

**Degree of Master of Arts**
The requirement for admission to this degree will normally be a four-year B.A. in a relevant program from a recognized university with an average of at least B+, or equivalent, in the final year. Depending upon the amount of undergraduate preparation, candidates may be enrolled in either a two-year or a one-year program, with a normal course load of three courses per year. The Department may recommend enrolment as Special Students to those applicants without sufficient background preparation.

Students desiring a concentration in Islamic Art and Material Culture shall have at least six courses in History of Art and Near and Middle Eastern Civilizations (a minimum of two in each), and a reading knowledge of French or German at the time of admission. This is normally a two-year program.

**Degree of Doctor of Philosophy**
Before being accepted as candidates for this degree, applicants must have obtained an M.A. degree in a relevant program from a recognized university with at least a B+ average or equivalent in the courses taken for the M.A. program and must also satisfy the Department as to their ability to do independent research. The candidate's program of study will be determined in consultation with the Department and will include 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 Ph.D. program.

Evidence of competence in primary source language(s) relevant to the candidate's research must be demonstrated at the time of admission. A candidate shall also normally be required to submit evidence of ability to read German and French by the time of general examinations. Other languages, such as Latin, Arabic, and Modern Hebrew, may be substituted for one of these, as the case may demand. In some cases, the Department may require competence in another language relevant to the student's program. The choice of language(s) must be approved by the Department.

Candidates for the degree 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 requirements for the degree will normally be six full graduate courses or equivalent. In approved circumstances, credit for up to three of these courses may be provided by the M.A. program or its equivalent.

The following two fields are offered in both the M.A. and Ph.D. programs and are listed together with their sub-fields/areas of specialization:

***Ancient Near Eastern Studies***
Near Eastern Archaeology (Egyptian, Syro-Palestinian, Islamic)
Assyriology (new students not accepted in this area)
Near Eastern History
Egyptology
Hebrew and Judaic Studies
Aramaic-Syriac Studies
Septuagint Studies (new students not accepted in this area)

***Middle Eastern and Islamic Studies***
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

**Courses of Instruction**
**1** Languages. A number of graduate courses in Near and Middle Eastern Civilizations demand ability to handle primary sources in the original language or languages. Some of the courses listed below may require reading knowledge of European languages.
**2** Course Availability. Not all courses are offered every year. Please consult the Department's *Graduate Handbook* and Web site for courses offered in the current academic year.

***Akkadian Language and Literature***
NMC 1001Y Introduction to Old Babylonian/*Staff*
NMC 1002Y Selected Standard Babylonian Texts/*Staff*
NMC 1003Y Akkadian Historical Texts/*Staff*
NMC 1006Y Akkadian Literary Texts/*Staff*
NMC 1008Y Akkadian Letters and Business Documents (Late Period)/*Staff*

***Ancient Egyptian Language and Literature***
NMC 1201Y Introduction to Middle Egyptian Dialect/*Staff*
NMC 1202Y Middle Egyptian Texts/*Staff*
NMC 1203Y Late Egyptian Texts/*R. J. Leprohon*
NMC 1204Y Cursive Scripts/*R. J. Leprohon*
NMC 1207H Introduction to Demotic/*Staff*
NMC 1209Y Old Egyptian Texts/*R. J. Leprohon*
NMC 1210Y Ancient Egyptian Historical Texts/*Staff*

NMC 1213Y Egyptian Religious and Funerary Literature/*R. J. Leprohon*

***Arabic Studies***

NMC 2100Y Intensive Arabic I/*Staff*
NMC 2101Y Intensive Arabic II/*Staff*
NMC 2102Y Advanced Standard Arabic/ *S. Günther*
NMC 2118Y Readings in Mediaeval Arabic Historical Texts/*Staff*
NMC 2119Y Readings in Mediaeval Arabic Palaeography and Diplomatics/ *L. S. Northrup*
NMC 2120Y Readings from Muslim Chronicles of the Crusades/*Staff*
NMC 2130Y Topics in Arabic Literature/ *S. Günther*
NMC 2131Y Ethics and Education in Medieval Arabic Texts/*S. Günther*
NMC 2132H Hadith: Classical Religious Literature in Islam/*S. Günther*
NMC 2133H Medieval Arabic Sources on Islamic Thought/*S. Günther*
NMC 2134H Classical Arabic Poetry/ *S. Günther*
NMC 2135H Story-tellers, Travellers and Warriors in Medieval Arabic Literature/ *S. Günther*

***Aramaic-Syriac Language and Literature***

NMC 1100Y Introduction to Aramaic/*A. Harrak*
NMC 1101Y Early Syriac Texts/*A. Harrak*
NMC 1102Y Palestinian Aramaic Texts/ *T. Meacham*
NMC 1104Y Aramaic Epigraphy/*Staff*
NMC 1105Y Syriac Historical Texts/*A. Harrak*
NMC 1106Y Syraic Exegetical Texts/*A. Harrak*
NMC 1110Y Palestinian Targums/*T. Meacham*
NMC 1111Y Babylonian Aramaic/*T. Meacham*

***Archaeology***

NMC 1400Y Introduction to the Archaeology of the Near East/*T. P. Harrison*
NMC 1401Y Prehistory of Western Asia/*T. C. Young, Jr.*
NMC 1405Y Seminar on the Archaeology of Western Asia (1)/*T. C. Young, Jr.*
NMC 1406Y Problems in the Archaeology of Bronze Age Syria-Palestine/*T. P. Harrison*
NMC 1407Y Problems in the Archaeology of Iron Age Syria-Palestine/*T. P. Harrison*
NMC 1408Y Seminar in the Archaeology of Syria-Palestine/*T. P. Harrison*
NMC 1410Y The Archaeology and Material Culture of Ancient Egypt/*M. A. Wegner*
NMC 1411H Near Eastern Ceramics (1)/*T.P. Harrison*
NMC 1412H Near Eastern Ceramics (2)/*T.P. Harrison*
NMC 1413H The Archaeology of Early Nubia/ *K. A. Grzymski*
NMC 1414H Egyptian Artifacts/*M. A. Wegner*
NMC 1415H Archaeology in Egyptian Art/*N. B. Millet*
NMC 1416H Egyptian Iconography/*N. B. Millet*
NMC 1418Y Archaeology of Nubia/*K. A. Grzymski*
NMC 1419Y Art, Archaeology and Culture of Egypt in the Age of the Pyramids/*K. Grzymski*
NMC 1420Y Selected Topics in Near Eastern Archaeology/*Staff*
NMC 1421Y Seminar in Egyptian Archaeology/ *M. A. Wegner*
NMC 1422Y Polarized-light Microscopy in Archaeology/*R. Mason*
NMC 1500Y Archaeology, from Alexander to Muhammad/*E. J. Keall*
NMC 2540Y Islamic Archaeology/*E. J. Keall*

***Art and Material Culture***

NMC 1403H Art of Egypt/*N. B. Millet*
NMC 1417H Architecture of Egypt/*N. B. Millet*
NMC 2500H Early Islamic Art and Architecture/*L. V. Golombek*
NMC 2501H Later Islamic Art and Architecture/*L. V. Golombek*
NMC 2515Y The Islamic City/*E. J. Keall*
NMC 2520H Western Medieval Islamic Architecture/*L. V. Golombek*
NMC 2521H The Taj Mahal and Its Origins: Medieval Islamic Architecture in Iran, Central Asia, and India/*L. V. Golombek*
NMC 2526H Islamic Painting/*L. V. Golombek*
NMC 2527H Islamic Decorative Arts/*L. V. Golombek*
NMC 2530Y Selected Problems in Islamic Art and Archaeology/*Staff*

***Hebrew Language and Literature***

NMC 1300Y Intensive Prerequisite Hebrew/ *Staff*
NMC 1302Y The Psalter/*R. T. Lutz*
NMC 1304Y Biblical Narrative/*R. T. Lutz*
NMC 1305H Early Hebrew Epigraphy/*J. B. Peckham*
NMC 1310Y The First Part of Isaiah/*R. T. Lutz*
NMC 1311Y Post-Biblical Hebrew: Mishnah and Midrashim/*H. Fox*
NMC 1316H Modern Hebrew Poetry/*H. Fox*
NMC 1317H Modern Hebrew Prose/*H. Fox*
NMC 1318Y Midreshei Halakha/*T. Meacham*

NMC 1324Y Hebrew Legal Codes, Medieval and Modern/*H. Fox*
NMC 1326Y Topics in Midrashic Literature/*Staff*

***History***

NMC 1608Y Topics in Jewish Legal and Social History/*T. Meacham*
NMC 1609Y Gender Issues in Jewish Law and Religion/*T. Meacham*
NMC 2090Y Islamic History to the Fall of Baghdad/*L. S. Northrup*
NMC 2095Y The Islamic Response to the Crusades: 1095-1291 A.D./*Staff*
NMC 2140Y Political and Economic Development in the Arab World from the Tanzimat to 1914/*A. Jwaideh*
NMC 2145Y Problems of Land Tenure and Tribal Society in the Arab World/*A. Jwaideh*
NMC 2155Y The Emergence of Modern Iraq/*A. Jwaideh*
NMC 2170Y Topics in Modern Middle East History/*J. A. Reilly*
NMC 2171Y Social and Economic History of the Modern Middle East/*J. Reilly*
NMC 2172Y Modern Arab History/*J. A. Reilly*
NMC 2225Y History of Medieval Iran and Central Asia/*M. E. Subtelny*
NMC 2310Y Ottoman History to 1800/*J. R. Blackburn*
NMC 2315Y Seminar in Topics from Ottoman History/*J. R. Blackburn*

***Linguistics***

NMC 1651H Northwest Semitic Epigraphy/*J. B. Peckham*
NMC 1652H Ugaritic Religious Texts/*J. B. Peckham*
NMC 1653Y Historical Hebrew Grammar/*Staff*
NMC 1657Y Problems in Hebrew Grammar/*Staff*

***Meroitic***

NMC 1395H Introduction to Meroitic/*N. B. Millet*

***Persian Studies***

NMC 2035Y Women and Writing in Twentieth-Century Iran/*R. Sandler*
NMC 2200Y Intensive Persian I/*Staff*
NMC 2201Y Intensive Persian II/*Staff*
NMC 2220Y Studies in Classical Persian Literature/*M. E. Subtelny*
NMC 2221Y Medieval Persian Ethical and Advice Literature/*M. E. Subtelny*
NMC 2222Y Persian Mystical Poetry/*M. E. Subtelny*
NMC 2226Y Readings in Medieval Persian Historical and Documentary Sources/*M. E. Subtelny*
NMC 2235Y Literature and Society in Twentieth-Century Iran/*R. Sandler*
NMC 2335Y Persian Literature in the Diaspora/*R. Sandler*

***Religion and Philosophy***

NMC 1613Y Ancient Western Asiatic Religions/*Staff* (Ph.D. students in Near and Middle Eastern Civilizations excluded)
NMC 1614Y Ancient Egyptian Religion/*R. J. Leprohon* (Ph.D. students in Near and Middle Eastern Civilizations excluded)
NMC 2045Y Islamic Philosophical Texts/*M. E. Marmura*
NMC 2050Y Islamic Theology and Philosophy/*M. E. Marmura*
NMC 2052Y Islamic Religious Thought/*M. E. Marmura*
NMC 2053H Islam in Cross-Cultural Contact: Interreligious and Intercultural Encounters/*Staff*
NMC 2055H The Qur'an and Its Interpretation/*W. Saleh*
NMC 2056H Readings in Qur'an and Tafsir/*W. Saleh*

***Research Methodology***

NMC 2010Y Bibliographical Problems of Islamic Research/*E. Birnbaum*
NMC 2030Y Problems of Translation from Primary Sources/*Staff*

***Sumerian***

NMC 1701Y Sumerian Historical Texts/*Staff*

***Turkish Studies***

NMC 2300Y Intensive Turkish I/*Staff*
NMC 2301Y Intensive Turkish II/*Staff*
NMC 2330Y Readings in Ottoman Historical Texts/*V. Ostapchuk*
NMC 2335Y Ottoman Palaeography and Diplomatics/*V. Ostapchuk*
NMC 2340Y Studies in Ottoman and Turkish Literature/*V. Ostapchuk*
NMC 2345Y The Steppe Frontier in Islamic History/*V. Ostapchuk*

***Other Courses***

NMC 2000Y Directed Reading/*Staff*
NMC 2001Y Directed Reading and Research/*Staff*

# Neuroscience (Collaborative Program)

**Program Committee**

J. O. Dostrovsky, BSc, MSc, PhD/Physiology
***(Director)***
W. S. Trimble, BSc, PhD/Biochemistry
J. L. Winslow, BSc, MASc, MSc, PhD/Biomaterials & Biomedical Engineering
S. Nag, MBBS, MD, MSc, PhD, FRCP(C)/Laboratory Medicine & Pathobiology
B. J. Sessle, BDS, BSc, MSD, PhD, FRSC, Canada Reserach Chair/Dentistry
P. L. Carlen, MD, FRCP(C)/Medical Science
J. C. Roder, BA, PhD/Molecular & Medical Genetics
W. M. Burnham, BA, PhD/Pharmacology
J. W. Wells, BScPhm, MSc, PhD/Pharmacy
P. E. Hallett, MA, BSc, BM/Physiology
J. S. Yeomans, BA, PhD/Psychology
M. C. Verrier, DipP&OT, MHSc/Rehabilitation Science
L. F. De Nil, MSc, PhD/Speech-Language Pathology
D. Lovejoy, BSc, PhD/Zoology

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*Web:* www.utoronto.ca/neurosci

The graduate departments of Biochemistry, Biomaterials and Biomedical Engineering, Dentistry, Laboratory Medicine and Pathobiology, Medical Science, Molecular and Medical Genetics, Pharmacology, Pharmacy, Physiology, Psychology, Rehabilitation Science, Speech-Language Pathology, and Zoology participate in the graduate program in Neuroscience at the University of Toronto. Participating departments in the program contribute courses and provide facilities and supervision for graduate research. Students in the program must apply to and register in one of the participating departments and fulfil their admission requirements. Students must follow a program of studies acceptable to both the participating department and the Neuroscience Program. Upon successful completion of the requirements, students receive in addition to the master's degree or Ph.D. in their departmental area, the notation “Completed Collaborative Program in Neuroscience” on their transcripts and a certificate. Students interested in joining the program should contact the Program in Neuroscience office to obtain an application form and handbook. Students should register within one month of initial registration in the participating department. The *Program in Neuroscience Graduate Handbook* provides summaries of research fields of all the faculty in the program and their departmental 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.

**Program Requirements**

**1** The thesis topic must be in the neuroscience area.
**2** The student's supervisor must be a member of the Program in Neuroscience (PIN).
**3** The student must have an adequate background in general neuroscience.
**4** The student must complete at least one half-course for the master's degree and at least one full course (or equivalent) for the Ph.D. degree from the list of courses approved by the Program in Neuroscience which is listed below.
**5** The student must attend the Annual PIN Poster Day and present his/her work at least once.
**6** The student must attend at least 75% of the lectures in the PIN Distinguished Lecturers Series.

**Courses of Instruction**

Neuroscience courses offered by the participating departments are listed below. Not all courses are offered each year.

| | |
|---|---|
| DEN 1060H | Oral Physiology: Sensory and Neuromuscular Function |
| 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 |
| 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 |
| PCL 1012H | Cognitive Neuropharmacology |

| | |
|---|---|
| PSL 1026H | Neurophysiological Experimentation |
| PSL 1033H | Motor Control Systems |
| PSL 1041H | Physiology of Vision |
| PSL 1047H | Somatosensory Physiology and Pain |
| PSL 1052H | Fundamentals of Ion Channel Function |
| PSL 1053H | Critical Assessment of Ion Channel Function |
| PSL 1059H | Auditory and Vestibular Physiology |
| PSL 1062H | Risk Factors/Neurophysiological Consequences in Developmental Neurological Disorders |
| 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 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 |
| ZOO 1026H | Advanced Topics in Neurophysiology |

***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 1024H | Endocrinology and Neuroendocrinology |
| 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 |

# Nuclear Engineering

Education and research in Nuclear Engineering includes the study of nuclear processes for purposes such as power generation, medicine, irradiation technology, and industrial use of radioisotopes. The main subjects of study include nuclear reactor research (in reactor materials and heat transfer), nuclear safety, radiochemistry, radiation chemistry, environmental monitoring, and non-destructive testing.

Opportunities for research in areas relevant to Nuclear Engineering exist primarily in the Departments of Chemical Engineering and Applied Chemistry, Mechanical and Industrial Engineering, Materials Science and Engineering, and the Institute for Aerospace Science and Engineering. Some relevant courses are listed in the respective calendar entries of various departments within the Faculty of Applied Science and Engineering.

Candidates may obtain further information on enrolment procedures, academic requirements, and scholarship applications from the Coordinator of Graduate Studies in each of these Departments.

# Nursing Science NUR

## Graduate Faculty

### Full Members

D. Affonso, BS, MN, MA, PhD
P. N. J. Corey, BSc, MA, PhD
P. C. Coyte, BA, MA, PhD
G. Donner, RN, BScN, MA, PhD
D. Doran, RN, BA, MHSc, PhD
M. J. Esplen, RN, BScN, MScN, PhD
M. G. Evans, BSc, MScTech, MIA, PhD
M. I. Fitch, BN, MScN, PhD
R. Gallop, BScN, MScN, PhD
D. Gastaldo, BScN, MA(Ed), PhD
P. N. Goering, RN, BSN, MSN, PhD
W. R. C. Harvey, BSc, BA, MA, PhD, LLB
E. Hillan, RGN, BScN, RM, MPhil, MSc, PhD *(Chair)*
E. D. Hodnett, BSN, MScN, PhD, Reisman Chair in Perinatal Nursing Research
P. Leatt, BScN, MHSA, PhD, Liberty Health Chair
H. A. Llewellyn-Thomas, BScN, MScN, PhD
H. Maclean, BSc, MSc, DipNutr, EdD
B. Majumdar, RN, BScN, MSc, MEd , MSc(T), PhD
P. D. McKeever, BN, MSc(A), PhD
L.-L. O'Brien-Pallas, BScN, MScN, PhD, National Research Chair in Nursing Human Resources
P. R. Petryshen, BScN, BA, MScN, PhD
D. M. Pringle, BScN, MS, PhD
S. Sidani, BSN, TD, MS, PhD
P. A. Singer, MD, MPH, FRCPC
B. J. Stevens, BScN, MScN, PhD, Signy Hildur Eaton Chair in Pediatric Nursing Research
D. L. Streiner, BA, MS, PhD, CPsych
J. H. Watt-Watson, BScN, MScN, PhD
D. L. Wells, BA, MHSc, PhD
J. I. Williams, BA, MA, PhD
D. Zakus, BSc, MES, MSc, PhD

### Members Emeriti

J. S. Chapman, BScN, MSN, PhD
D. M. Craig, BA, BScN, MScN
J. E. Graydon, BScN, MS, PhD

### Associate Members

G. Andrews, BA, PhD
J. Angus, RN, BScN, MScN
M. Ballantyne, RN, BScN, MScN, MHSc
A. Bjelajac-Mejia, BA, BSPharm, PharmD
B. Chalmers, BA, MA, PhD
L. Cicutto, BScN, MSc, PhD
M. Ferguson-Paré, BScN, MPh, PhD
S. C. Galloway, BScN, MScN
S. Gibbins, RN, BAAN, MSc, PhD
H. Ginzberg, MD, FRCP
R.S. Hagey, BScN, MA, PhD
P. Hubley, RN, BScN, MScN
S. Katz, BA, MA, PhD
K. J. Kaufman, BSN, PhD
N. Khanlou, RN, BScN, MSc, PhD
D. Kordich Hall, BScN, MScN, PhD
R. N. F. Lee, BScN, MScN, PhD
G. Macdonald, RN, BScN, MEd, EdD
K. MacMillan, RN, BSc, MA, MSc
M. McAllister, BScN, MHSc
L. McGillis Hall, RN, MSc, PhD
G. J. Mitchell, BScN, MScN, PhD
L. Nagle, BNSc, MScN, PhD
J. Park Dorsay, RN, BAAN, MN
E. Peter, BScN, MScN, PhD
P. Pogue, RN, BAAN, MSc, ACNP
J. Price, RN, BScN, MScN
J. Shamian, BA, MPH, PhD
M. L. Stuckey, RN, BScN, MScN, ACNP
A. Tourangeau, RN, BScN, MN, PhD
L. Vincent, BScN, MSc(A)
G. Wilson, RN, BScN, MScN
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### Degree of Master of Nursing

The purpose of the Master of Nursing (M.N.) program is to prepare 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
**a** Adult acute care
**b** Child acute care

For Nursing Administration and Clinical Nursing fields, the program requirement is nine courses, including one clinical course.

For the Acute Care Nurse Practitioner field, the program requirement is nine courses, including two clinical courses. This field of study is only offered by e-learning starting September 2002.

#### *Admission Requirements*

Candidates must hold the B.Sc.N. degree of the University of Toronto or an equivalent degree. Candidates 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. Candidates seeking admission to the Acute Care Nurse Practitioner field must also have two years of clinical experience. For further information about admission requirements and for application forms, please contact the Graduate Department of Nursing Science. Deadline for applications is February 1.

***Course and Degree Requirements***

**1** To qualify for the degree, a candidate shall complete a program of study outlined by the Graduate Department of Nursing Science.
**2** Students are encouraged to enrol on a full-time basis; however, a part-time option is available.
**3** The program may be completed in a minimum of 4 sessions (16 months) 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 Nursing/Master of Business Administration Program**

The combined M.N./M.B.A. Program is designed to permit students to obtain both the M.N. and M.B.A. degrees in three full-time years of study (seven part-time years). Students are required to spend the first two years of residency completing the first year programs of the M.N. and M.B.A. degrees, respectively.

During the first year of the Program, students will be enrolled exclusively in the Joseph L. Rotman School of Management.

During the second year of the Program, students will be enrolled in the Faculty of Nursing and will be expected to complete

- four half courses for the M.N. degree
- one M.B.A. required course at the 2000 level
- one second year elective course in the Joseph L. Rotman School of Management.

In the third year of the Program, students will be required to complete a series of courses selected from a prescribed menu of graduate M.N. and second year M.B.A. courses drawn from the curricula of both faculties. A list of these courses is determined by the Coordinator of the combined M.N./M.B.A. Program in consultation with the two faculties.

***Admission Requirements***

Admission to the combined Program is conditional upon independent admission to each of the participating graduate departments. Candidates will normally be required to complete separate application forms on a concurrent basis and pay the application fees for admission to the M.N. Program and the M.B.A. Program.

Candidates must satisfy the full requirements for each of the participating graduate departments. The aggregate criteria listed below must be satisfied to ensure that an application is considered complete for the purpose of entry into the M.N./M.B.A. Program. Candidates must:
**1** be accepted under the general regulations of the School of Graduate Studies. Meeting the minimal requirements does not ensure admission.
**2** hold a University of Toronto B.Sc. degree in Nursing, or a degree from an equivalent program in a recognized university.
**3** have obtained a B+ standing in the final year of undergraduate study and, in addition, must have obtained at least a B standing in the next-to-final year. It is expected that the student will have obtained good academic standing in non-nursing as well as nursing subjects.
**4** have undertaken the Graduate Management Admissions Test (GMAT) and have obtained a satisfactory score.
**5** have at least two years of work experience within the health care field.

***Course and Degree Requirements***

The M.N. component of the combined M.N./M.B.A. Program comprises six required courses including one clinical course.

The M.B.A. component of the combined M.N./M.B.A. Program comprises 14 required courses of different weights and 5 elective courses.

**Degree of Master of Science**

This program is not open for admission for the current academic year.

**Degree of Doctor of Philosophy**

The purpose of the program leading to the degree of Doctor of Philosophy is to prepare scientists with the required analytical and research skills for the study of clinical or administrative nursing problems.

Each candidate 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.

The program of study will include a minimum of four courses, faculty/student research seminars, and a thesis.

### *Admission Requirements*

Candidates must have a University of Toronto master's degree in nursing or a degree from an equivalent nursing program in a recognized university. Candidates must have achieved at least a B+ standing in their master's program. For further information about admission requirements and for application forms, please contact the Graduate Department of Nursing Science. Deadline for applications is February 1.

### *Course and Degree Requirements*

**1** In order to qualify for the degree, a candidate 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 May 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.

**2** All requirements for the degree must be completed satisfactorily within six calendar years from the date of the student's first enrolment in the Ph.D. program.

### *Flexible-time 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 above for the full-time Ph.D. program. However, students will have up to eight years to complete the program. An examination of the dissertation proposal is required, usually in the third year and no later than the fourth year. Students are required to pay full-time fees for the first four years of their program; thereafter, they will pay part-time fees.

### Collaborative Programs

Students in the Graduate Department of Nursing Science may choose to participate in the following collaborative programs:
Aging and the Life Course
Bioethics
Ethnic and Pluralism Studies
Women's Studies

For more information, consult the separate entries in this calendar.

### Courses of Instruction

NUR 1012H Culture and Relations/*R. Hagey*

NUR 1013H Transcultural Health Care Issues/ *R. N. F. Lee*

NUR 1014H The Politics of Aboriginal Health/ *R. Hagey*

NUR 1016H Health Systems, Policy, and the Profession/*M. Risk, K. MacMillan*

NUR 1017H History of Ideas in Nursing Practice/*F. Wynn, D. L. Wells*

NUR 1021H Nursing Ethics/*E. Peter*

NUR 1022H Research Design, Appraisal, and Utilization/*S. Bondy, E. Hodnett, S. Sidani, A. Tourangeau*

NUR 1023H Critical Issues in the Design and Conduct of Controlled Trials of Behavioural Health Care Interventions/*E. Hodnett*
Required course 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 Qualitative Research: Foundations, Methods and Designs/*J. Angus, D. Gastaldo*

NUR 1026H Evaluating Interventions in Clinical Settings/*S. Sidani*
Prerequisites: Intermediate level statistics course (graduate level), basic knowledge of research design and methods, and advanced knowledge of statistical analyses.

NUR 1032H Group Process and Professional Practice/*M. J. Esplen*

NUR 1033H Current Mental Health Issues and Their Implications for Practice/ *R. Gallop*

NUR 1034H Program Planning and Evaluation in Nursing/*I. Bajnok, A. Tourangeau*

NUR 1037H Aging and Place: Social and Policy Transitions/*G. Andrews*

NUR 1039H Women's Health Across the Lifespan/*K. Hardie*

NUR 1040H Issues in Women's Health Care/ *J. Angus*

NUR 1042H Responses of Children and Families to Illness in Childhood

NUR 1043H Theories of Interpersonal Process/*M. J. Esplen*

NUR 1044H "Thinking" About Children: Implications for Health Care Research, Practice and Policy/ *P. McKeever*

NUR 1045H Theories of Pain: Impact on the Individual, Family and Society/ *B. Stevens*

NUR 1047H Community Participation and Health/*J. Macdonald*
NUR 1049H Nursing Approaches to Common Physiological and Behavioural Manifestations of Critically Ill Patients/*G. Wilson*
NUR 1050H Coping With Illness/*M. Fitch*
NUR 1051H Assessment and Management of Common Responses to Illness
NUR 1052H Perinatal Nursing Sciences
NUR 1055H Politics of Health in the Community/*D. Gastaldo*
NUR 1056H Places, Programs, and People Who Provide Care/*Staff*
NUR 1059H Informatics: Theory and Application in Nursing/*L. Nagle*
NUR 1060H Management of Nursing Services/*D. Doran*
NUR 1061H Patient Information Systems/Workload Measurement/*L. L. O'Brien-Pallas*
NUR 1062H Measuring Nursing Care Effectiveness: Economic and Financial Perspectives/*L. McGillis Hall*
NUR 1064H Behaviour in Health Care Organizations/*M. Ferguson-Paré, G. Mitchell*
NUR 1066H Theoretical Basis for Methodology for Quality Improvement in Nursing Services/*D. Doran*
NUR 1067H Recovery-Oriented Mental Health Systems of Care/*P. Goering*
NUR 1068H Youth and Mental Health Promotion/*N. Khanlou*
NUR 1080H Theoretical Perspectives in Nursing Science/*F. Wynn*
Required course for Ph.D. students only
NUR 1090H Measuring Nursing Phenomena/*S. Sidani*
Prerequisite: completion of an advanced graduate level statistics course
NUR 1101H Advanced Health Assessment and Clinical Reasoning (Adult)/*J. Price*
Pre- or corequisite: NUR 1022H
NUR 1102H Advanced Health Assessment and Clinical Reasoning (Child)/*M. McAllister*
Pre- or corequisite: NUR 1022H
NUR 1103H Pathophysiological Concepts/*H. Ginzberg*
NUR 1104H Therapeutics./*A. Bjelajac-Mejia*
NUR 1109Y Advanced Nursing Practice in Caring for Clients and Families I/*Staff*
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 (CR/NCR)/*Staff*
Prerequisite: NUR 1109Y.
Pre- or corequisite: NUR 1034H

***The following two courses will be offered in 2002/2003 for students completing their degree requirements under the 2001/2002 curricula:***

NUR 1069Y Advanced Nursing Practice (CR/NCR)
Prerequisites: successful completion of a minimum of five courses, two of which must be NUR 1017H and NUR 1022H
NUR 1070Y Integration of Theory/Research in Practice (CR/NCR)
Prerequisite: successful completion of NUR 1069Y

***Joint Courses***

JNH 5001H Health Care Settings: Issues, Concepts, Measures and Policies/*P. Coyte, G. Andrews*
JPX 1001H Parenting: Multidisciplinary Perspectives/*Staff*

(CR/NCR) Credit/No Credit

# Nutritional Sciences NFS

## Graduate Faculty

### Full Members

J. Allard, MD, FRCP(C)
G. H. Anderson, BSc, MSc, PhD
M. C. Archer, MA, MSc, PhD, DSc, Earle W. McHenry Professor and Chair ***(Chair)***
N. F. Boyd, MD, FRCP(C), The Lau Family Chair in Breast Cancer Research
S. C. Cunnane, BEd, BSc, PhD
G. E. Eyssen, BSc, MSc, PhD
C. E. Greenwood, BSc, MSc, PhD
T. Heim, MD, PhD, FRCP(C)
K. N. Jeejeebhoy, MB, PhD, MRCP, FRCP(C), FRCP(E)
D. J. A. Jenkins, BA, MB, BS, MA, MD, PhD, Canada Research Chair
N. Krieger, BA, MPH, MPHIL, PhD
L. A. Leiter, BSc, MD, FRCP(C)
I. Munro, PhD, FRCPath
D. O'Connor, PhD
P. B. Pencharz, MB, CHB, PhD, FRCP(C)
V. Tarasuk, BA, BEd, BASc, MSc, PhD
L. U. Thompson, BSc, MSc, PhD
T. M. S. Wolever, BA, BM, BCh, MA, MSc, PhD, DM ***(Coordinator of Graduate Studies)***
S. H. Zlotkin, BSc, MD, PhD, FRCP(C)

### Members Emeriti

G. H. Beaton, MA, PhD
W. R. Bruce, BSc, MD, MSc, PhD, FRCP(C), FRSC
M. Krondl, BSc, PhD
A. V. Rao, BSc, MSc, PhD

### Associate Members

R. Ball, BSc, MSc, PhD, PAg
P. Darling, BSc, MSc, PhD, RD
A. El-Sohemy, PhD
A. Fox, MHSc
R. Hanning, BASc, PhD
R. G. Josse, MBBS, BSc, FACP, FRCP, FRCP(C)
Y.-I. Kim, MD, FRCP(C)
A. J. Levitt, MBBS, DGo, FRCP(C)
E. Power, BA, BSc, MSc, PhD
V. Vuksan, BSc, MSc, DSc
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The Department of Nutritional Sciences offers graduate programs in the basic science, clinical, and community aspects of human nutrition. Research projects range from the molecular to the community level of inquiry. Candidates with appropriate preparation in health sciences will be admitted under the general regulations of the School of Graduate Studies.

A Ph.D. or M.Sc. degree in Nutritional Sciences with specialization in either Neuroscience or Toxicology can be taken through this Department. For details of these two collaborative programs, please consult the appropriate entries in this calendar.

### Degree of Master of Science

Candidates are admitted under the general regulations of the School of Graduate Studies. Students with diverse backgrounds are encouraged to apply.

The minimum admission requirement is a mid-B standing. Most admitted students have a B+ to A- average.

The minimum program length for full-time students is 12 months. Candidates will attend and participate in NFS1204Y *Master's Seminars in Nutritional Sciences* throughout their period of full-time registration and will 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. In addition, a course in statistical methods or research design and analysis is required if not completed previously. Submission of a thesis on an approved research area and its defence at an oral examination are required.

A limited number of students will be admitted to the M.Sc. program on a part-time basis.

### Degree of Master of Health Science

(Community Nutrition)
See Department of Community Health for information.

### Degree of Doctor of Philosophy

Candidates may enter the Ph.D. program 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. They may also enter the Ph.D. program with an

appropriate M.Sc. degree with at least a B+ standing.

Exceptional students may be allowed to reclassify into the Ph.D. program after one year without completing the M.Sc. on the recommendation of an advisory committee and successful completion of a reclassification examination.

The residence requirement for candidates admitted with a bachelor's degree is three sessions. Candidates admitted with a master's degree have a residency requirement of two sessions.

Although it is expected that students from either background can complete their Ph.D. in a period of four years of full-time study, research, and thesis preparation, some students may require longer.

During this time candidates will attend and participate in NFS 1304Y *Doctoral Seminars in Nutritional Sciences*. Those entering with a bachelor's degree will also complete a minimum of six half-courses; those entering with an M.Sc. degree, a minimum of four half-courses. The courses will be chosen by each student to provide an appropriate background for his/her area of investigation. It is expected that all candidates 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. The student will also complete a comprehensive examination in nutritional sciences. To qualify for the Ph.D. degree, a thesis must be submitted and the student must pass the departmental examination before proceeding to the final oral examination conducted by the School of Graduate Studies.

**Courses of Instruction**

Not all courses are offered every year. Please consult the Department for course offerings.

NFS 1201H Public Health Nutrition/*V. Tarasuk*
NFS 1204Y° Master's Seminars in Nutritional Sciences (CR/NCR)/*Staff*
NFS 1208H Field Observation and Nutrition Program Laboratory I/*A. Fox*
NFS 1209H Field Observation and Nutrition Program Laboratory II/*A. Fox, M. Morris*
NFS 1210H Field Observation and Program Laboratory III: Management of Community Food Programs/ *A. Fox, T. Griffin*
NFS 1211H Community Nutrition/*Staff*
NFS 1216H Selected Topics Nutrition/*Staff*
NFS 1218H Recent Advances in Nutritional Sciences I/*Staff*
NFS 1219H Recent Advances in Nutritional Sciences II/*Staff*
NFS 1220H Clinical Nutrition/*D. Jenkins, P. Pencharz, P. Darling*
NFS 1221H Nutrition Programs and Strategies/*A. Fox*
NFS 1301H Directed Reading in Nutritional Sciences/*Staff*
NFS 1304Y° Doctoral Seminars in Nutritional Sciences (CR/NCR)/*Staff*
NFS 1484H Advanced Nutrition/ *C. Greenwood*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

# Occupational Therapy OCT

## Graduate Faculty

### Full Members

A. Colantonio, BA, BSc, MHSc, PhD
J. Friedland, BA, Dip(P&OT), MA, PhD
B. H. Kirsh, BSc(OT), MEd, PhD
H. Polatajko, BOT, MEd, PhD, OT(C)
***(Chair)***
S. G. Rappolt, BSc(OT), MSc, PhD
D. T. Reid, BSc(OT), MEd, PhD
***(Coordinator of Graduate Studies)***
R. M. Renwick, BA, Dip(P&OT), PhD

### Associate Members

D. Cameron, BSc(OT), MEd
L. Cockburn, BComm, BSc(OT), MEd
D. R. Dawson, BSc, MSc, PhD
S. Farrow, BSc(OT)
A. Fourt, BSc(OT)
S. Friefeld, BSc(OT), MA
D. Hébert, BSc(OT), MScKin
S. Langlois, BHSc(OT), MSc
P. McKee, Dip(OT), BSc(OT), MSc
P. Rigby, Dip(OT), MHSc
D. Rudman, BSc(OT), MSc
J. Stier, BMR OT(C)
B. Trentham, BSc(OT), MES

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### Degree of Master of Science in Occupational Therapy

The objective of the professional Master of Science program in Occupational Therapy is to prepare graduates to:

**1** practice independently in a range of settings and in a variety of roles; for example, in acute settings, in interdisciplinary programs, in private practice, as consultants, as case managers
**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
**9** pursue a Ph.D. and careers in academia or clinical research

The M.Sc. (OT) 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 science, occupational therapy, and research production and utilization. Graduates of the program 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.

#### *Admission Requirements*

Admission is determined through an evaluation of academic and non-academic materials with heavier weighting on the academic materials. Eligible applicants must have 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 or over senior courses. Students must have the following prerequisite courses from the University of Toronto, or their equivalent from a recognized university: Introductory Psychology (full credit); Introductory Physiology or Introductory Biology, Human or Vertebrate (half credit); Introductory Sociology or Introductory Anthropology (half credit); a course in human growth and development (half credit); and a course in introductory statistics (half credit). The Department will review the final two years of a four-year degree or the last 10 full-course equivalents completed if final marks are not yet available.

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 is a condition of admission and ideally should be met by the application deadline for the Department of Occupational Therapy, but must be met by the end of June. This requirement may be satisfied through the successful completion of one of the English language proficiency tests listed in the School of Graduate Studies Calendar with at least minimum scores. The Department of Occupational Therapy strongly prefers the

Test of English as a Foreign Language (TOEFL).

Applicants to the Department of Occupational Therapy use the Ontario Rehabilitation Sciences Programs Application Services (ORPAS) application package. The non-academic admission requirements are outlined in the application. Applications for the following academic year are made available approximately mid-September each year, and the deadline for submission is approximately mid-January each year. For updates, students should refer either to the Department or to the ORPAS Web site. Applications must be ordered from the Ontario Universities' Application Centre through the 24-hour automated phone request line at 519-823-1940, ext. 582; or via the Web site, www.ouac.on.ca/orpas/, using the "Request an Application Package" option. Applications are not available through the Department of Occupational Therapy.

***Program Requirements***

The curriculum will be presented in six consecutive sessions, with a range of two to six concurrent courses in each session. First year courses include: Research, Foundations in Occupational Science, Occupational Therapy Practice; Structure and Function, Psychological, Neuro-motor and Neuro-cognitive Perspectives. Second year students engage in intensive research projects and three parallel courses in Enabling Occupation across Childhood, Adulthood and Older Adulthood, respectively. There are four full-time block fieldwork components within the program of study. Methods of study include interactive classes, divergent case method, skill labs, self-study, computer-assisted instruction, and fieldwork. Students enter the program in September, complete the 22-course program requirement in 24 consecutive months through full-time study, and graduate at Fall Convocation.

**Required Courses of Instruction**

***First Year***

*Fall Session*

OCT 1111Y Foundations of Occupational Science: The Occupational Paradigm/*Staff*
OCT 1121H Research Issues and Approaches in Occupational Therapy/ *D. Rudman, H. Polatajko*
OCT 1131H Occupational Therapy Practice I/ *S. Rappolt, D. Cameron, J. Stier*
OCT 1141H Assessment in Occupational Therapy/*B. Trentham*

*Winter Session*

OCT 1122H Methods in Practice-Based Research/*S. Friefeld*
OCT1132H Occupational Therapy Practice II/ *D. Cameron, C. Harrison, J. Stier*
OCT 1152Y Musculoskeletal Structure and Function/*P. McKee*
OCT 1162Y Psychosocial Perspectives in Occupational Therapy/*B. Kirsh*
OCT 1172Y Neuro-motor/Neuro-cognitive Perspectives in Occupational Therapy/*D. Hebert, P. Rigby*
OCT 1183Y Occupational Therapy Fieldwork I/*D. Cameron, J. Stier*

*Summer Session*

OCT 1123H Framing Practice-Based Research/*D. Rudman*
OCT 1133H Occupational Therapy Practice III/*S. Rappolt*

***Second Year***

*Fall Session*

OCT 1220Y Research Experience/*J. Friedland*
OCT 1251H Enabling Occupation with Children: Part I/*P. Rigby*
OCT 1261H Enabling Occupation with Adults: Part I/*Staff*
OCT 1271H Enabling Occupation with Older Adults: Part I/*A. Colantonio*
OCT 1281Y Occupational Therapy Fieldwork II/*D. Cameron, J. Stier*

*Winter Session*

OCT 1220Y Research Experience (cont.)/ *J. Friedland*
OCT 1252H Enabling Occupation with Children: Part II/*D. Reid,*
OCT 1262Y Enabling Occupation with Adults: Part II/*L. Cockburn*
OCT 1272H Enabling Occupation with Older Adults: Part II/*A. Colantonio*
OCT 1282Y Occupational Therapy Fieldwork III/*D. Cameron, J. Stier*

*Summer Session*

OCT 1220Y Research Experience (cont.)/ *J. Friedland*
OCT 1283Y Occupational Therapy Fieldwork IV/*D. Cameron, J. Stier*

# Pharmaceutical Sciences PHM

## Graduate Faculty

### Full Members

R. Bendayan, BScPharm, PharmD
***(Coordinator of Graduate Studies)***
B. M. Bowen, BScPhm, MScPhm
T. V. Chalikian, BS, MS, PhD
Y.-L. Cheng, SB, SM, PhD
T. R. Einarson, BScPhm, MEd, MPharm, MSc, PhD
L. Endrenyi, PhD
G. Firnau, MS, PhD
D. M. Grant, BSc, PhD
D. R. Hampson, BS, MS, PhD
K. W. Hindmarsh, BSPhm, MSc, PhD, FCSFS
***(Dean)***
S. Ito, MD, ABCP
G. Koren, MD, FRCP(C)
R. B. Macgregor, Jr., BS, PhD
***(Chair)***
L. D. MacKeigan, BScPhm, PhD
T. W. Mak, BSc, MSc, PhD, DSc, FRS, FRSC,University Professor, Canada Research Chair
J. A. Marshman, BScPhm, MSc, PhD
L. J. Muzzin, BA, MA, MA, PhD
P. J. O'Brien, BSc, MSc, PhD
K.-C. S. Pang, BScPhm, PhD
P. S. Pennefather, BSc, PhD
M. Piquette-Miller, BScPhm, PhD
R. M. Reilly, BScPhm, MScPharm, PhD
B. A. Saville, BSc, PhD
N. H. Shear, BA, MD, FRCP(C)
M. Spino, BScPharm, PharmD
J. J. Thiessen, BScPhm, MSc, PhD
J. P. Uetrecht, BS, MS, MD, PhD, Canada Research Chair
J. W. Wells, BScPhm, MSc, PhD
P. G. Wells, BScPhm, PharmD
X. Y. Wu, BSc, MScEng, PhD

### Members Emeriti

J. G. Nairn, PhD
J. B. Robinson, BSc, MSc, PhD
H. J. Segal, BScPhm, MS, PhD

### Associate Members

Z. Austin, BScPhm, MBA, MIS, MEd, PhD
J. Bajcar, BScPhm, MScPhm
P. Ballantyne, BA, MA, PhD
W. R. Bartle, BScPhm, PharmD
H. Boon, BScPhm, PhD
U. E. Busto, PharmD
B. G. Hardy, BScPhm, PharmD
J. Henderson, BA, PhD
A. M. Holbrook, MD, BScPhm, PharmD, MSc
L. P. Kotra, BPhm, PhD
M. J. Moore, MD
M. Papadimitropoulos, BSc, MScPhm, PhD
T. W. Paton, BSc, BScPhm, PharmD
B. A. Sproule, BScPhm, PharmD
A. Taddio, BScPhm, MSc, PhD
S. A. N. Tailor, PharmD
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The Department of Pharmaceutical Sciences offers research opportunities and courses in five principal areas:
**1** ***Molecular Pharmacology***
drug receptor interactions, medicinal chemistry, molecular biology, and electrophysiology
**2** ***Pharmaceutics***
physical pharmaceutics, pharmaceutical formulations, radiopharmaceutical synthesis, and instrumental pharmaceutical analysis
**3** ***Pharmacokinetics***
basic pharmacokinetics and clinical research
**4** ***Social and Administrative Pharmacy***
economic, managerial, behavioural, regulatory, and social
**5** ***Toxicology***
biochemistry, clinical, adverse drug reactions and drug metabolism

## Degree of Master of Science

***Admission Requirements***
**1** Applicants to the M.Sc. program should hold a four-year University of Toronto B.Sc. degree or its equivalent from a recognized university.
**2** Applicants are admitted under the general regulations of the School of Graduate Studies. Applicants must also satisfy the Pharmaceutical Sciences Graduate Admissions Committee, which will take into account the background and accomplishments of the applicant, academic standing (applicants must usually achieve at least a mid-B average in each of the last two years of their undergraduate program), and financial support.
**3** 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

TOEFL and have a minimum score of 600 for the paper-based test or a minimum score of 250 for the computer-based test. The TOEFL must include the Test of Written English or Essay Rating with a minimum score of 5.0. Unless an undergraduate degree has been obtained from a recognized Canadian or U.S. university, the applicant must write the Graduate Record Examination (GRE - General Test).
**4** A limited number of students will be admitted to the M.Sc. program on a part-time basis.

***Program Requirements—Full-Time M.Sc.***
To qualify for the M.Sc. degree, students must complete the following program requirements:
**1** A program of study that provides the appropriate foundation for the thesis research to be undertaken by the student. The program will depend on the background of the student and will be planned in consultation with the supervisor and advisory committee, with the approval of the graduate chair. The student will normally complete two full courses, or equivalent, but a minimum of one full course, or equivalent, is required.
**2** Yearly advisory committee meetings.
**3** One short research presentation given to all faculty and graduate students at Graduate Research in Progress (GRIP), and attendance at GRIP and Post-GRIP. Students are also expected to attend research seminars.
**4** Final seminar (20 to 30 minutes) to be given during the thesis defence.
**5** A thesis based on an approved research problem in a field of pharmaceutical sciences.

***Program Requirements—Part-Time M.Sc.***
All requirements are the same as for the M.Sc. Full-Time program, except for the short research presentation and attendance at Graduate Research in Progress (GRIP). A presentation at GRIP is required every other year during enrolment.

## Degree of Doctor of Philosophy

***Admission Requirements***
**1** Applicants to the Ph.D. program should hold a University of Toronto M.Sc. degree or its equivalent from a recognized university. Under exceptional circumstances, students may be admitted directly to the Ph.D. program with an honours B.Sc. degree. Factors to be considered will include academic standing, ability to do research, and financial support.
**2** Applicants are admitted under the general regulations of the School of Graduate Studies. Applicants must also satisfy the Pharmaceutical Sciences Graduate Admissions Committee, which will take into account the background and accomplishments of the applicant, academic standing (applicants must usually achieve an overall B+ average in their M.Sc. program), and financial support.
**3** 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 TOEFL and have a minimum score of 600 for the paper-based test or a minimum score of 250 for the computer-based test. The TOEFL must include the Test of Written English or Essay Rating with a minimum score of 5.0. Unless an undergraduate degree has been obtained from a recognized Canadian or U.S. university, the applicant must write the Graduate Record Examination (GRE).

***Transfer from M.Sc. to Ph.D.***
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 Ph.D. program after one year in the M.Sc. program. The student must have completed at least one course and have an average grade of A minus. A transfer from the M.Sc. program to the Ph.D. program occurs normally within 15 months of the student's first registration in the M.Sc. program. The transferred student must complete all remaining course requirements of the M.Sc. program, except the thesis, in addition to the requirements of the Ph.D. program. Credit is given in the doctoral program for research completed prior to the transfer. Graduate courses taken at the M.Sc. level that are not required for the degree may be counted toward meeting some doctoral course requirements (with departmental approval).

***Program Requirements***
To qualify for the Ph.D. degree, students must complete the following program requirements:
**1** A program of study that provides the appropriate foundation for the thesis research to be undertaken by the student. The program will depend on the background of the student and will be planned in consultation with the supervisor and advisory committee, with the approval of the graduate chair. Students will normally complete two full courses, or equivalent. Students admitted directly to the Ph.D. program with a B.Sc. must complete three full courses, or equivalent.
**2** Yearly advisory committee meetings.
**3** A qualifying examination.
**4** Two short research presentations to all faculty and graduate students at Graduate Re-

search in Progress (GRIP), an exit full-length research seminar to be given before the thesis defence, and attendance at GRIP and Post-GRIP. Students are also expected to attend research seminars.

**5** A thesis in conformity with the University regulations, based on research conducted while registered in a Ph.D. program at the University of Toronto.

**6** Students are required to be on campus and participating full-time (including summer) until all program requirements, with the exception of the thesis, are completed. Course work should normally be completed within the first two years of registration.

**Collaborative Programs**

The Graduate Department of Pharmaceutical Sciences participates in the following collaborative programs:

Addiction Studies
Human Development, Life Course and Aging
Neuroscience
Toxicology

Consult the separate program entries in this calendar for more details.

Please consult the Department's course timetable for courses offered in a given year.

PHM 1107H Advanced Pharmacokinetics Course I/*J. J. Thiessen, K. S. Pang, L. Endrenyi*

PHM 1108H Advanced Pharmacokinetics Course II/*K. S. Pang, J. J. Thiessen, L. Endrenyi*

PHM 1109H Recent Developments in Dosage Form Design (prerequisite PHM 224Y or equivalent)/*X. Y. Wu*

PHM 1110H Chemical Basis of Drug Metabolism/*J. P. Uetrecht, Staff*

PHM 1111H Research and Statistical Analytical Methods/*T. R. Einarson, H. J. Segal*

PHM 1114H Special Topics in Radiopharmaceuticals I/*B. M. Bowen, R. Reilly*

PHM 1115H Special Topics in Radiopharmaceuticals II/*R. M. Reilly, B. Bowen*

PHM 1116H Pharmacoeconomic Evaluation/*L. D. MacKeigan*

PHM 1117H DNA-Drug Interactions/*R. B. Macgregor*

PHM 1118H Drug Utilization: Patterns, Outcomes, and Issues in Drug Use Evaluation/*T. R. Einarson*

PHM 1119Y Graduate Seminar in Social and Administrative Pharmacy/*J. A. Marshman*

PHM 1120H Selected Research Topics in the Pharmaceutical Sciences/*P. J. O'Brien*

PHM 1122H Fundamentals of Drug Discovery/*P. Pennefather*

PHM 1123H Thermodynamics of Macromolecular Interactions/*T. V. Chalikian*

AGE 2000H Principles of Aging/*P. Ballantyne*

ATS 3700H Multidisciplinary Aspects of Alcohol, Tobacco, and Other Psychoactive Drugs/*R. Bendayan, M. J. Ashley, G. Martin*

JFK 1120H Selected Topics in Drug Development I/*M. Piquette-Miller, E. M. Sellers*

JFK 1121H Selected Topics in Drug Development II/*X. Y. Wu*

JFK 1122H Drug Transport Across Biological Membranes/*R. Bendayan, P. S. Pennefather*

JNP 1014Y Interdisciplinary Toxicology/*Staff*

JNP 1016H Graduate Seminar in Toxicology/*P. G. Wells*

JNP 1017H Molecular and Biochemical Basis of Toxicology/*P. J. O'Brien, Staff*

JNP 1018H Current Topics in Molecular and Biochemical Toxicology/*P. J. O'Brien, Staff*

JPY 1007Y Neuropharmacology of Neurotransmitter Receptors/*P. Seeman, J. W. Wells*

JRX 11124H Structure-Based Drug Design/*L. Kotra*

# Pharmacology PCL

## Graduate Faculty

### Full Members

W. M. Burnham, BA, PhD
U. E. Busto, PharmD
J. N. DaSilva, PhD
P. Dorian, MSc, MDCH
R. C. Frecker, BSc, MD, PhD
S. R. George, MD, FRCP
D. M. Grant, BSc, PhD
***(Chair)***
L. A. Grupp, DSc
D. R. Hampson, BS, MS, PhD
P. A. Harper, BSc, MSc, PhD
J. N. M. Heersche, BSc, PhD
T. Inaba, BEng, MSc, PhD
***(Coordinator of Graduate Studies)***
S. Ito, MD, ABCP
O. T. Jones, BSc, MSc, PhD
S. J. Kish, PhD
G. Koren, MD, FRCP(C)
P. P. Li, PhD
J. F. MacDonald, BSc, PhD
S. M. MacLeod, MD, PhD, FRCP(C)
N. W. Milgram, BA, MA, PhD
J. Mitchell, PhD
M. J. Moore, MD
C. A. Naranjo, MD
J. N. Nobrega, BA, MA, PhD
P. J. O'Brien, BSc, MSc, PhD
B. F. O'Dowd, PhD
A. B. Okey, BSc, MSc, PhD
C. Pace-Asciak, PhD
K.-C. S. Pang, BScPhm, PhD
J. D. Parker, MD
P. S. Pennefather, BSc, PhD
D. S. Riddick, BSc, PhD
B. P. Schimmer, BS, PhD
L. C. Schlichter, BSc, MSc, PhD
E. M. Sellers, MD, PhD, FRCP(C)
J. W. Semple, PhD
N. H. Shear, BA, MD, FRCP(C)
O. C. Snead, MD
L. Spero, BPhm, PhD
B. K. Tang, BSc, PhD
R. F. Tyndale, PhD
J. P. Uetrecht, BS, MS, MD, PhD, Canada Research Chair
H. H. M. Van Tol, BSc, MSc, PhD
J. J. Warsh, MD, PhD
J. W. Wells, BScPhm, MSc, PhD
P. G. Wells, BScPhm, PharmD

### Members Emeriti

L. Endrenyi, PhD
G. J. Goldenberg, MD
D. Kadar, BSc, MSc, PhD
H. Kalant, MD, PhD
W. W. Kalow, MD
J. M. Khanna, MPharm, PhD
I. C. Radde, MD, PhD, FRCP(C)
P. Seeman, BSc, MSc, MDCH, PhD
A. K. Sen, MD, PhD

### Associate Members

A. D. Le, MSc, PhD
E.A. Roberts, MD
S. Rourke, PhD
R. Rozmahel, BSc, PhD
D. M. Tomkins, BSc, PhD

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*Web:* www.utoronto.ca/grdpharm/

Degree candidates are accepted under the general regulations. Research activity in the Department, from which graduate students may choose problems for their theses, include:
- alcoholism and drug addiction
- biochemical and molecular pharmacology
- cardiovascular pharmacology
- clinical pharmacology
- drug metabolism, distribution, and pharmacokinetics
- endocrine pharmacology
- immunopharmacology and molecular genetics
- neuropharmacology
- pharmacogenetics
- psychopharmacology
- receptor pharmacology
- second messengers and signal transduction
- toxicology

### Degree of Master of Science

Students are admitted under the general regulations of the School of Graduate Studies. However, the Department's Graduate Education Committee must be satisfied about the applicant's background and accomplishments, financial support, and ensure that academic achievement is normally at the B+ average level in the final year of the undergraduate program.

Before obtaining a degree, a student must have course credits in PCL 1001Y *General Pharmacology,* or its equivalent, and

PCL 1002Y *Graduate Pharmacology*. Additional courses may be taken as the academic program requires.

Each student will participate in a research program and present the results of the investigation as a written thesis. The thesis will be read and approved by the supervisor and two appraisers, one of whom should normally be from outside the Department. It will then be orally defended to the satisfaction of a thesis examination committee.

M.Sc. students in the Department of Pharmacology who intend to continue their studies in the Ph.D. program will be evaluated during their M.Sc. oral defence.

**Degree of Doctor of Philosophy**

Candidates for the degree of Doctor of Philosophy in this Department are normally required to have taken courses in physiology, biochemistry, or allied sciences sufficient to form a foundation for their work in pharmacology. This Department's doctoral program requires a minimum period of two full years of residence. During this 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.

The Department's Graduate Education Committee determines the eligibility of prospective students. The Committee assesses students' ability and potential for advanced study and independent research in pharmacology.

Well qualified students with excellent research potential holding a Bachelor of Science degree may be considered for direct admission to the Ph.D. program by the Department's Graduate Education Committee.

Applicants with M.Sc. degrees from other departments or universities, and students admitted with a Bachelor of Science degree will have their research ability and potential for the program reviewed after completion of one year. Upon successful completion of a departmental seminar and recommendation from the student's advisory committee to the Graduate Education Committee, the student will be permitted to proceed with the Ph.D. program.

Students transferring from the master's program in pharmacology to the Ph.D. program may receive full credit for master's courses towards doctoral course requirements, with the Department's permission.

Before obtaining the degree, all students must acquire graduate course credits in PCL 1001Y *General Pharmacology* (or its equivalent), PCL 1002Y *Graduate Pharmacology* (major subject), PCL 1011Y *Experimental Pharmacology* (Credit/No Credit course), an additional full graduate course (minor subject), and any other courses advised by the Graduate Education Committee. The student's advisory committee should help the student determine the minor subject.

During their program, students are required to hold tutorial meetings with staff members in three areas of pharmacology, excluding their own research speciality. In the final year of the program the candidate must present thesis material in a seminar to the Department; this normally takes place about six months prior to the final oral examination.

Candidates for the degree of Doctor of Philosophy 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.

All successful applicants to the M.Sc. and Ph.D. programs are responsible for obtaining research supervision and financial support before they are allowed to officially register in their program.

**Collaborative Programs**

The Department of Pharmacology participates in the following collaborative programs:

**1** Addiction Studies
**2** Cardiovascular Sciences
**3** Neuroscience
**4** Toxicology (*see* Environmental Studies)

For more details, consult the separate program entries in this calendar.

**Courses of Instruction**

The Department should be consulted each term as to course offerings. Students may also obtain up-to-date course information on the departmental Web site www.utoronto.ca/grdpharm/schedule.htm.

| | |
|---|---|
| PCL 1001Y | General Pharmacology/*Staff* |
| PCL 1002Y | Graduate Pharmacology/*A. B. Okey, D. S. Riddick* |
| PCL 1004Y | Clinical Pharmacology/*G. Koren, Staff* |
| PCL 1009Y | Pharmacological Laboratory/*D. S. Riddick* |
| PCL 1011Y | Experimental Pharmacology Program (CR/NCR)/*J. Mitchell* |
| PCL 1012H | Cognitive Neuropharmacology/*N. W. Milgram* |
| PCL 1015H | Applied Pharmacogenetics and Pharmacogenomics/*T. Inaba, R. Rozmahel* |

(CR/NCR) Credit/No Credit

| | |
|---|---|
| JFK 1120H | Selected Topics in Drug Development I/*E. M. Sellers* |
| JFK 1122H | Drug Transport Across Biological Membranes/*R. Bendayan, P. S. Pennefather* |
| JNP 1014Y | Interdisciplinary Toxicology/*Staff* |
| JNP 1016H | Graduate Seminar in Toxicology/ *P. G. Wells* |
| JNP 1017H | Molecular and Biochemical Basis of Toxicology/*P. J. O'Brien, Staff* |
| JNP 1018H | Current Topics in Molecular and Biochemical Toxicology/*P. J. O'Brien, Staff* |
| JNR 1444Y | Fundamentals of Neuroscience: Cellular and Molecular/*P. L. Carlen, Staff of Playfair Neuroscience Unit* |
| JPM 1005Y | Behavioural Pharmacology/*E. M. Sellers, D. M. Tomkins, Staff* |
| JPM 1008H | Psychopharmacology and Women's Health/*E. M. Sellers, Staff* |
| JPY 1007Y | Neuropharmacology of Neuro-transmitter Receptors/ *P. Seeman, J. W. Wells* |
| JYG 1555H | Topics in Cellular and Molecular Neurobiology/*J. F. MacDonald* |
| PHM 1106H | Clinical Pharmacokinetics in Therapeutic Drug Monitoring/ *Staff* |
| PHM 1107H | Pharmacokinetics Course I/*J. J. Thiessen, K. S. Pang, L. Endrenyi* |
| PHM 1108H | Pharmacokinetics Course II/*K. S. Pang, J. J. Thiessen, L. Endrenyi* |

# Philosophy PHL

## Graduate Faculty

### Full Members

D. Ainslie, BSc, MA, PhD
D. P. H. Allen, MA, BPhil, DPhil
P. J. Apostoli, MA, PhD
B. S. Baigrie, BA, MA, PhD
D. L. Black, BA, MA, PhD
J. M. Boyle, BA, PhD
J. R. Brown, BA, MA, PhD
R. Comay, BA, MA, PhD
F. Cunningham, BA, MA, PhD, FRSC
R. B. de Sousa, BA, PhD
D. Dyzenhaus, BA, LLB, DPhil, FRSC
L. W. Forguson, BA, MA, PhD
R. Z. Friedman, MA, PhD
L. P. Gerson, BA, MA, PhD
R. Gibbs, BA, MA, PhD
***(Coordinator of Graduate Studies)***
D. Goldstick, BA, BPhil, DPhil
P. W. Gooch, BA, MA, PhD
K. H. Green, BA, MA, PhD
I. M. Hacking, BA, MA, PhD, FRSC, University Professor
W. R. C. Harvey, BSc, BA, MA, PhD, LLB
J. Heath, BA, MA, PhD
T. Hurka, BA, BPhil, DPhil, FRSC
D. S. Hutchinson, BA, BPhil, DPhil
B. C. Inwood, BA, MA, PhD, FRSC, Canada Research Chair
B. D. Katz, BA, MA, PhD
M. G. Kingwell, BA, MLitt, PhD
A. Kukla, AB, MA, PhD
L. M. Lange, AB, MA, PhD
C. J. Misak, BA, MA, DPhil, FRSC
***(Chair)***
K. P. Morgan, BA, MA, MEd, PhD
M. C. Morrison, BA, MA, PhD
A. Mullin, BA, PhD
D. Novak, AB, MHL, rabbinical diploma, PhD
A Ripstein, BA, PhD, MSL
M. Rozemond, PhD
W. E. Seager, BA, MA, PhD
S. A. Sedivy, BA, PhD
V. T. S. Shen, BA, MA, PhD, Lee Chair
G. Sreenivasan, BA, BPhil, PhD, Canada Research Chair
I. L. Stefanovic, BA, MA, PhD
L. W. Sumner, BA, MA, PhD, FRSC
R. P. Thompson, BA, MA, PhD
J. Tully, BA, MA, PhD, Jackman Chair in Philosophic Studies
R. E. Tully, BA, DPhil
A. I. F. Urquhart, MA, PhD
J. M. Vertin, BA, STB, STL, MA, PhD
F. F. Wilson, BSc, PhD, FRSC

### Members Emeriti

B. F. Brown, MA, PhD
J. V. Canfield, BA, AM, PhD
A. Gombay, BA, MA, BPhil
J. A. Graff, MA, PhD
R. A. Imlay, BA, MA, PhD
E. J. Kremer, AB, PhD
J. C. Morrison, BA, MA, PhD
G. Nicholson, BA, BD, MA, PhD
J. M. Rist, BA, MA, FRSC
T. M. Robinson, BA, BLitt, MA
J. H. Sobel, MA, PhD
M. T. Thornton, BPhil, PhD

### Associate Members

A. Chakravartty, BSc, MA, BPhil, PhD
D. Checkland, BA, MA, PhD
P. Clark, PhD
J. Hawkins, BA, MA, PhD
M. Lin, BA, PhD
J. Nagel, BA, PhD
G. Rattan, BA, MA, PhD
S. Tenenbaum, BA, PhD

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Applicants interested in graduate study in philosophy at the University of Toronto should consult the Department's *Graduate Bulletin*. This provides complete details of graduate programs, describes course offerings, and supplies short academic profiles of the graduate faculty, including their phone numbers and electronic addresses. One may obtain a printed copy of the *Graduate Bulletin* from the Graduate Office, Department of Philosophy, at a cost of $3.00. An electronic version is available on the World Wide Web at www.chass.utoronto.ca/philosophy/.

### Application for Admission

The Department admits students to two degree programs: Master of Arts and Doctor of Philosophy. The minimum requirements for admission to these programs are given below, under the headings "Degree of Master of Arts" and "Degree of Doctor of Philosophy." Admission to these programs is highly selective and competi-

tive; those who barely meet the minimum conditions should not expect admission without exceptionally favourable supporting considerations.

All the forms required for application, including the standard application form, can be downloaded from the departmental Web site. The Department does not mail application packages. The Web site also contains detailed instructions for completing applications.

Unless otherwise indicated, applicants must submit the following supporting documents with their applications:

**1** One official transcript of the applicant's academic record from each university attended, complete to the time of application.

**2** A statement of about 300 words, indicating the applicant's areas of interest in philosophy at the graduate level.

**3** A short list of the major readings in each philosophy course taken by the applicant. (This item is not required of applicants from the University of Toronto.)

**4** Two letters of reference from philosophy instructors, written on the appropriate forms.

**5** 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.

**6** Candidates for admission to the Ph.D. program are strongly encouraged (but are not required) to submit the results of the Graduate Record Exam (GRE) taken within the preceding 18 months.

**7** Applicants whose primary language is not English and who are not graduates of a university whose language of instruction is English must also submit the results of a TOEFL test with a score of at least 600 and of a TWE test with a score of at least 5, or equivalent results in some other recognized test of English-language facility.

The closing date for applications to the Department's degree programs, by which time applicants must have submitted their supporting documentation as well as their completed application, is January 15.

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 are the same as those for the M.A. program, but the deadlines for applications are April 15 for full-time Special Students and August 1 for part-time Special Students.

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.

**Degree of Master of Arts**

Students approved by the Department are admitted as candidates for this degree under the general regulations of the School of Graduate Studies.

Admission to the M.A. program requires a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes at least six full courses (twelve half-courses) 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. Students lacking an adequate background in philosophy may be required to complete additional undergraduate courses before being considered for admission. In certain cases, an applicant whose background in philosophy is deficient may be admitted to the M.A. program but may be required to take one or two additional courses, possibly at the undergraduate level.

The program for the M.A. degree consists of a minimum of four full-course equivalents in philosophy. At least one of these full-course equivalents must be in the history of philosophy and at least one must be in the problems of philosophy.

Each M.A. student is assigned to an Advisory Committee, which will recommend a suitable program of philosophy courses. The candidate's choice of courses must be approved by the Department. One member of this committee will serve as the student's Academic Advisor throughout the M.A. program and will be responsible for overseeing the student's progress.

It is possible for a full-time student to complete all requirements for the M.A. degree in the Fall and Winter sessions; however, the Department encourages students to take no more than three full-course equivalents during the Fall and Winter sessions and to complete the last course during the Summer session.

Part-time enrolment in the M.A. program is permitted; the requirements for the degree must be completed within five academic years.

**Degree of Doctor of Philosophy**

Students approved by the Department are admitted as candidates for this degree under the general regulations of the School of Graduate Studies.

Admission to the Ph.D. program requires either (a) a four-year University of Toronto bachelor's degree, or its equivalent from a recognized university, that includes at least six full

courses (twelve half-courses) 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, or (b) 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 satisfy the Department that they are capable of independent research in philosophy at an advanced level.

A candidate admitted to the Ph.D. program shall pursue a program of study and research approved by the Department. The minimum requirements for the degree are as follows:

**1 *Course Requirements***

A candidate admitted on the basis of a four-year bachelor's degree must take a minimum of six full-course equivalents in philosophy, with an average grade of at least an A-. At least two of these full-course equivalents must be in the history of philosophy and at least two must be in the problems of philosophy. A student who fails to maintain an average of at least an A- after completing three full-course equivalents may have their registration terminated.

A candidate admitted on the basis of a master's degree in philosophy must take a minimum of three full-course equivalents in philosophy, with an average grade of at least an A-. At least one of these full-course equivalents must be in the history of philosophy and at least one must be in the problems of philosophy. A student whose M.A. degree does not exhibit sufficient breadth—in particular, does not include the equivalent of at least one full course in the history of philosophy and at least one full course in the problems of philosophy—may be required to take additional courses.

With the Department's permission, a student may replace up to one full-course equivalent in philosophy with a graduate course offered by another department, provided that the course is required for the student's planned research.

A doctoral candidate is required to complete at least three full-course equivalents by the end of the first year of registration and to complete any of the remaining course requirements for the degree by the end of the second year.

**2 *Breadth Requirement***

A candidate must demonstrate competence in at least seven areas of philosophy: three of the four specified areas in the history of philosophy (ancient, medieval, 17th-18th century, and 19th-20th century), three areas in problems of philosophy (metaphysics, epistemology, ethics), and formal logic. Competence in any area within the first two categories is normally established by successful completion of a graduate half-course in that area. Competence in logic (defined as proficiency in first-order symbolic logic with identity) is expected of all candidates prior to beginning doctoral studies. Where this is not the case, competence must be acquired as a supplement to the required number of courses and be demonstrated to the satisfaction of the Department by the time the Area Requirement is met.

**3 *Area Requirement***

Before being allowed to proceed with formal research on a thesis topic, the candidate must demonstrate competence in a broader area within which that topic falls. An individual Area Committee (established by the student and approved by the Department) assists in framing that area and compiling an appropriate reading list, and it also approves an appropriate plan for carrying out the research. The research undertaken by the candidate either culminates in a written exam or else consists of a research project. Both paths lead to an oral exam based on the written work and the reading list.

**4 *Language Requirement***

A candidate 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 candidate's area committee may require competence in additional languages deemed necessary for the student's proposed area of research.

**5 *Thesis***

A candidate must submit a thesis on an approved subject and defend the thesis at a final oral examination.

Each candidate carries out thesis research on an approved topic under the guidance of a three-person Thesis Committee, consisting of a Supervisor and two consultants or readers. The Supervisor must normally approve the thesis before it can be submitted by the candidate for defence at a required oral examination. The final oral examination is arranged by the Department in collaboration with the School of Graduate Studies. At least eight weeks must be allowed for all arrangements to be made following submission of the thesis to the Graduate Office.

The Department is not obligated to provide supervision in areas falling outside the competency, interest, or availability of its graduate faculty.

Students are strongly encouraged to plan their studies in such a way as to complete their program within four years of admission from an M.A., or five years of admission from a B.A. Financial support packages are based on this norm, although allowances are made for the higher demands of some collaborative programs.

**6 *Normal Time Line Through the Program***
By the end of the first year of registration in the case of someone admitted on the basis of a master's degree, otherwise by the end of the second year, a candidate should have completed all the course requirements for the degree; by the end of the following year of registration, the candidate should have satisfied any remaining breadth requirements, passed the area examination, and submitted to the Graduate Office the candidate's thesis topic and the names of faculty members who have agreed to serve as supervisor and readers. (These are general deadlines; consult the Department's *Graduate Bulletin* for specific dates and further details.) After this, the candidate begins work on the thesis, which the candidate is expected to complete within two years.

**7 *Residence***
Candidates must be registered as full-time on-campus students and must reside in sufficient geographical proximity to enable them to fulfill the course, breadth, area, and language requirements set by the Department in a smooth and timely fashion. During this phase, they are also expected to participate fully in departmental activities. Once these requirements have been met, and the Thesis Committee has approved a topic and plan of research for the thesis, a candidate may choose to reside at a greater distance from Toronto, especially if this seems desirable for the sake of thesis research and writing.

**Combined Juris Doctor/Doctor of Philosophy Program**
This combined program enables students to pursue work at the intersection of philosophy and law and to complete both the Ph.D. and the Juris Doctor in a shorter time than would otherwise be the case. Entry to the program requires admission to both the Ph.D. program in philosophy and the J.D. program in law. Separate applications are required.

In the first year of registration, a candidate admitted to the Combined Program will complete the first year of the law curriculum; in the second and third years, the candidate will complete the remaining requirements for the J.D. degree and will begin the course work required for the Ph.D. (Note that some of the courses done in fulfillment of the Ph.D. requirements will be counted for credit towards the J.D.) By the end of the fourth year of registration in the case of someone admitted on the basis of a master's degree, otherwise by the end of the fifth year, a candidate should have completed any remaining course requirements for the Ph.D. degree, satisfied the breadth requirement, and met the area requirement. The candidate then begins work on the thesis. During the first two years of the program, candidates are registered as full-time law students; subsequently, they are registered as full-time doctoral students and are eligible for graduate funding.

Those interested in pursuing this program should consult David Dyzenhaus, Director of the Ph.D. (Philosophy)–J.D. Program, at the Faculty of Law.

**Collaborative Programs**
The department participates in the following collaborative programs:
**1** Ancient and Medieval Philosophy
**2** Bioethics
**3** Environmental Studies
**4** International Relations
**5** Women's Studies
For more details, consult the separate entries in this calendar.

**Courses of Instruction**
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.

PHL 1000H,Y Reading Course
PHL 1001H,Y Reading Course
PHL 1500H,Y Reading Course

***Courses in the 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

***Courses in the 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

*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

*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 Teaching Philosophy
PHL 4900H Research Seminar

# Physical Therapy PHT

## Graduate Faculty

### Full Members

D. Brooks, BSc(PT), MSc, PhD
C. A. Cott, Dip(PT), BPT, DipGer, MSc, PhD
A. M. Davis, BSc(PT), MSc, PhD
S. B. Jaglal, BSc, MSc, PhD
K. M. A. Lundon, BSc, BSc(PT), MSc, PhD
W. E. McIlroy, BSc, MSc, PhD
S. G. Thomas, BSc, MSc, PhD
M. C. Verrier, DipP&OT, MHSc
***(Chair)***
K. K. Yoshida, BPhE, BSc(PT), MSc, PhD
N. L. Young, BSc(PT), MSc, PhD

### Associate Members

R. Davies, Dip(PT), BHSc(PT), MSc(PT)
C. Evans, BSc(PT), MSc
S. Gabison, BSc, BSc(PT), MSc
B. Gibson, BMR(PT), MSc
S. Gowans, BSc(PT), BA, PhD
C. Graveline, BSc(PT), MSc, PhD
C. Heck, BSc(PT), MSc, PhD
J. Hunter, BPT, MSc
S. Nixon, BHSc(PT), BA, MSc
E. Nussbaum, BSc(PT), MEd
S. Pagura, BA, BSc(PT), MSc
J. Schleifer Taylor, BSc, Dip(PT), BHSc(PT), MSc
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### Degree of Master of Science in Physical Therapy

The purpose of the Master of Science in Physical Therapy (M.Sc.PT) is to graduate practitioners who will:

- be academic physical therapy practitioners who, using advanced technologies, will share their knowledge with students, clients, policy makers, and other professionals in academic health science environments
- have enhanced competency in clinical skills
- participate in clinical and health care research, contributing to the overall body of scientific knowledge
- serve as role models for students and other health professionals as expert consultants in the fields of movement and movement disorders
- be innovative leaders in physical therapy, rehabilitation, and the health care system
- have ability to act as self-regulating professionals who exhibit strong personal, moral, and ethical values and are cognizant of the changing laws, codes, and guidelines that impact on themselves and their clients
- be creative entrepreneurs with sound business acumen capable of excelling in professional practice in a wide variety of venues
- serve as strong players with exemplary interpersonal skills, secure in their evolving role within a changing health care delivery system
- be strong negotiators and advocates who proactively influence interprofessional politics and health policy with an eye to maintaining and improving not only the health of clients but of the health system as a whole

The Master of Science in Physical Therapy program is a professional program. Graduates will be eligible to write the Physiotherapy National Examination (PNE) of the Canadian Alliance of Physiotherapy Regulatory Boards, which qualifies them to practice physical therapy in Canada. Graduates will also be eligible for registration in the Canadian Physiotherapy Association and the College of Physiotherapy of Ontario.

***Note:*** The M.Sc. degree program in Rehabilitation Science is a research-oriented program for students with a professional physical therapy degree; it does not prepare students for physical therapy, clinical practice, or licensure. The primary objective of the M.Sc. program is to prepare students for doctoral studies in Rehabilitation Science. Successful completion of the program does not guarantee entrance into the Ph.D. program. Consult the Rehabilitation Science entry in this calendar for details.

#### *Admission Requirements*

Applicants to the M.Sc.PT program must have 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 (i.e., 5 full-course equivalents at the senior level). Additional requirements include prerequisite courses in the life and/or physical sciences; social sciences, humanities or languages; and statistics. Refer to the departmental Web site (www.utoronto.ca/pt) for a full listing of admission requirements.

*English Language Facility*
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. Applicants must demonstrate facility in the English language through the successful completion of one of the English language proficiency tests listed in the School of Graduate Studies Calendar.

The Department of Physical Therapy strongly prefers that the Test of English as a Foreign Language (TOEFL), accompanied by the Test of Written English (TWE) and the Test of Spoken English (TSE) be used to satisfy the requirement. TOEFL: minimum score of 600 on the paper-based test or minimum score of 250 on the computerized test. TWE: minimum score of 5 on either the paper-based or computerized tests. TSE: minimum score of 50.

If it is impossible for an applicant to take the TOEFL, TWE, and TSE, the Department will accept one of the following: (a) the Michigan English Language Assessment Battery (MELAB: minimum score of 85); (b) the International English Language Testing System (IELTS: minimum score of 7.0); (c) the 600 Level course in Advanced Academic Preparation (minimum score of B).

*Application*
To obtain an application, you must contact the Ontario Universities' Application Centre (OUAC) via the Web or by telephone:
**1** Web: www.ouac.on.ca/orpas and choose "Request an Application Package" option
**2** Telephone: (519) 823-1940 ext. 582 (24-hour automated phone request line)

If you have any questions regarding the Ontario Rehabilitation Sciences Programs Application Services (ORPAS) application form, please contact orpas@ouac.on.ca or (519) 823-1940 ext. 559. Application forms are available mid-September. The application deadline is mid-January; deadline for transcripts is end of January.

### *Program Requirements*
Candidates enrolled in the full-time program must complete all requirements within two consecutive years. The M.Sc.PT program does not have a thesis requirement; however, students will be required to demonstrate proficiency in key areas of professional practice, including research practice, prior to graduation.

### Courses of Instruction
Consult the departmental calendar for a listing of courses offered during each academic year.

### *Required Courses*

*First Year*
PHT 1001H Introduction to Professional Physical Therapy Practice, Evaluation and Research/ *S. Nixon, M. Verrier*
PHT 1002Y Cardiorespiratory and Exercise Physical Therapy Practice/ *D. Brooks, Staff*
PHT 1003Y Musculoskeletal Physical Therapy Practice/*S. Gabison, K. Lundon, E. Nussbaum, Staff*
PHT 1004Y Clinical Internship—Cardiorespiratory and Musculoskeletal I (Credit/No Credit/Credit with Distinction)/*L. Sinclair*

*Second Year*
PHT 1005Y Neurological Physical Therapy Practice/*C. Graveline, W. McIlroy, M. Verrier*
PHT 1006Y Research and Program Evaluation for Physical Therapy Practice I/*C. Cott, S. Jaglal*
PHT 1007Y Clinical Internship—Neuroscience (Credit/No Credit/Credit with Distinction)/*L. Sinclair*
PHT 1008Y Advanced Neuromusculoskeletal Physical Therapy Practice/ *R. Davies, W. McIlroy, S. Switzer-McIntyre*
PHT 1009Y Clinical Internship—Musculoskeletal II (Credit/No Credit/Credit with Distinction)/*L. Sinclair*
PHT 1010Y Research and Program Evaluation for Physical Therapy Practice II (Credit/No Credit/ Credit with Distinction)/*C. Evans*
PHT 1011Y Clinical Internship—Selective (Credit/No Credit/Credit with Distinction)/*L. Sinclair*
PHT 1012Y Research and Program Evaluation for Physical Therapy Practice III/*K. Yoshida*

# Physics PHY

## Graduate Faculty

### Full Members

J. P. D. Abbatt, BSc, AM, PhD
D. C. Bailey, BSc, PhD
R. C. Bailey, BSc, PhD
R. J. Birgeneau, BSc, PhD, FRS
J. R. Bond, BSc, MS, PhD, FRS, FRSC, Fellow CIAR, Fellow APS, University Professor
R. F. Code, BSc, AM, PhD
R. C. Desai, BSc, PhD
A. Dhirani, BSc, MSc, PhD
D. J. Donaldson, BSc, PhD
J. R. Drummond, BA, MA, DPhil
D. J. Dunlop, MA, PhD
C. C. Dyer, MSc, PhD
R. N. Edwards, BSc, PhD, ARCS
P. A. Griffin, BSc, MSc, PhD
B. Holdom, BSc, MA, PhD
A. E. Jacobs, BASc, MSc, PhD
S. John, PhD, Canada Research Chair
M. L. G. Joy, BSc, MASc, PhD, PEng
H.-Y. Kee, BS, MS, PhD, Canada Research Chair
A. W. Key, MA, DPhil
Y. B. Kim, BSc, PhD, Canada Research Chair
L. Kofman, MSc, PhD, Fellow CIAR
P. W. Krieger, BSc, MSc, PhD
M. J. G. Lee, BA, MA, PhD
D. A. Lidar, BSc, MSc, PhD
R. K. Logan, BSc, PhD
M. E. Luke, PhD
G. J. Luste, BA, PhD
R. S. Marjoribanks, BSc, MS, MSc, PhD
J. F. Martin, PhD
B. Milkereit, Diplom, Dr rer nat
R. J. D. Miller, BSc, PhD, FRSC, Canada Research Chair
J. X. Mitrovica, BASc, MSc, PhD
G. W. K. Moore, BSc, PhD
S. W. Morris, BSc, MSc, PhD
N. W. Murray, BS, PhD, Canada Research Chair
C. B. Netterfield, BSc, PhD
K. H. Norwich, BSc, MSc, MD, PhD
P. J. O'Donnell, BSc, PhD
R. S. Orr, BSc, PhD, ARCS
A. W. Peet, BSc, PhD
W. R. Peltier, BSc, MSc, PhD, FRSC, University Professor
U.-L. Pen, BSc, MSc, PhD
E. Poppitz, BSc, PhD
J. Repka, BSc, PhD
T. G. Shepherd, BSc, PhD
P. K. Sinervo, BSc, PhD
J. E. Sipe, BSc, MSc, PhD
B. W. Statt, BSc, MSc, PhD
A. Steinberg, PhD
K. Strong, BSc, DPhil
L. Taillefer, BSc, PhD
A. C. Thompson, BS, PhD
W. Trischuk, BSc, PhD
H. M. van Driel, BSc, MSc, PhD, FRSC ***(Chair)***
M. B. Walker, BEng, DPhil
J. Y. T. Wei, BA, MS, PhD

### Members Emeriti

H.-R. Cho, BSc, MSc, PhD
T. E. Drake, BSc, MSc, PhD
A. E. Litherland, BSc, PhD, FRSC, FRS, University Professor Emeritus
A. D. May, BA, MSc, PhD
J. W. Moffat, PhD
J. M. Perz, BASc, MASc, PhD
D. J. Rowe, BA, MA, DPhil, FRSC
G. F. West, BASc, MA, PhD
S. S. M. Wong, BA, MS, PhD
D. York, BA, DPhil, FRSC

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The Department carries out research in experimental and theoretical physics in the following fields: atmospheric physics, geophysics, quantum optics and condensed matter physics, and subatomic physics. The following brochures are available from the Department upon request: *Physics at Toronto* and *Graduate Course Listings*.

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.

Candidates are accepted under the general regulations.

### Degree of Master of Science

The program of study of the M.Sc. degree will consist of (a) four graduate lecture courses and a report which has a one-course equivalence, or (b) two graduate lecture courses, the appropriate 6000-series research course, and a report which is equivalent to two courses (PHY 3400Y and the appropriate 7000-series

course), or (c) two graduate lecture courses and a thesis. Selection of the program is made by the student and a faculty advisor in consultation with the Associate Chair. The residence requirement for the M.Sc. degree is normally one academic session. All candidates for the M.Sc. degree are expected to attend the weekly general colloquium conducted by the Department.

**Degree of Doctor of Philosophy**
Candidates are normally admitted to the Ph.D. program after completion of the M.Sc. program or its equivalent elsewhere, but outstanding candidates who do not wish to first obtain their M.Sc. degree may apply for direct entry into the Ph.D. program. The core of the Ph.D. program is an original investigation, the results of which are embodied in a thesis. Lecture courses constitute a subsidiary but important part of the program. For details consult the Department. Normally the equivalent of four graduate courses is required; course credit will normally be given toward the Ph.D. for graduate lecture courses taken during a master's program. Within eight months of starting a Ph.D. program, candidates must pass a qualifying oral examination. Candidates for the Ph.D. degree enrol each year in the appropriate 6000 sequential series of research courses. As an essential part of their research programs, students are expected to attend the weekly general colloquium conducted by the Department.

Both the M.Sc. and Ph.D programs are full-time.

**Collaborative Program in Astrophysics**
Consult separate entry in this calendar.

**Collaborative Program in Biomedical Engineering**
Consult separate entry in this calendar.

**Courses of Instruction**
All courses are not given every year. Please check the departmental brochure or Web site for course availability.

***Introductory Courses***

JPA 1040Y Advanced Physics and Archaeology
PHY 1406H Microprocessor Interfacing Techniques
PHY 1483H Relativity Theory I
PHY 1484H Relativity Theory II
PHY 1491H Current Interpretations of Quantum Mechanics

***General Courses***

PHY 1600H Effective Communication for Professional Physicists
PHY 2107H Experimental Methods in Physics

***Foundation Courses***

PHY 1810H Foundation Course in Particle Physics
PHY 1820H Foundation Course in Astrophysics
PHY 1830H Foundation Course in Atmospheric Physics
PHY 1840H Foundation Course in Geophysics
PHY 1850H Foundation Course in Condensed Matter Physics
PHY 1860H Foundation Course in Quantum Optics

***Specialized Courses***

PHY 2202H Laser Physics I
PHY 2203H Laser Physics II
PHY 2205H Special Topics in Quantum Optics I
PHY 2206H Special Topics in Quantum Optics II
PHY 2208H Linear and Nonlinear Optics I
PHY 2209H Linear and Nonlinear Optics II
PHY 2210H Advanced Quantum Mechanics
PHY 2301H Structure and Dynamics of Condensed Matter
PHY 2303H Topics in Statistical Mechanics
PHY 2313H Special Topics in Condensed Matter Physics I
PHY 2314H Special Topics in Condensed Matter Physics II
PHY 2315H Nonequilibrium Statistical Mechanics
PHY 2404H Quantum Field Theory
PHY 2405H Experimental High Energy Physics
PHY 2406H Special Topics in Particle Physics I
PHY 2407H Special Topics in Particle Physics II
PHY 2502H Atmosphere-Ocean Dynamics
PHY 2504H Advanced Atmospheric Dynamics
PHY 2505H Atmospheric Radiative Transfer and Remote Sounding
PHY 2508H Atmospheric Chemistry
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 2604H Rock Magnetism
PHY 2605H Advanced Seismology

PHY 2606H Advanced Geodynamics
PHY 2607H Advanced Electromagnetic Methods in Geophysics
JGP 4170H Geotectonics
JPS 3600Y Current Topics in Astrophysics

***Report Course for M.Sc. 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 Laser Physics and Quantum Optics Seminar
PHY 7006Y Nuclear Physics Seminar
PHY 7007Y Particle Physics and Relativity Seminar

***Research Courses***
Candidates register in these courses in sequence of the last digit.

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 Laser Physics and Quantum Optics
PHY 6061Y Research in Nuclear Physics
PHY 6071Y Research in Particle Physics and Relativity

# Physiology PSL

## Graduate Faculty

### Full Members

S. L. Adamson, BSc, MSc, PhD
G. H. Anderson, BSc, MSc, PhD
H. L. Atwood, BA, MA, PhD, DSc, FRSC
P. H. Backx, BSc, MSc, PhD, DVM
C. E. Bear, BSc, MSc, PhD
D. Belsham, PhD
R. Boonstra, BSc, PhD
D. M. Broussard, BA, PhD
G. M. Brown, MD, FRCS(C), PhD
T. J. Brown, BSc, PhD
P. L. Brubaker, BSc, PhD, Canada Research Chair
D. G. Butler, BSc, MSc, PhD, DSc, FIBiol
P. L. Carlen, MD, FRCP(C)
R. F. J. Casper, MD, FRCSC
J. R. G. Challis, BSc, PhD, DSc, FIBiol, FRCOG, FRSC
M. P. Charlton, BSc, MSc, PhD
***(Coordinator of Graduate Studies)***
A. L. Coates, BEng(Elect), MDCM
U. De Boni, BSc, MSc, PhD
N. E. Diamant, MDCM, FRCP(C)
J. O. Dostrovsky, BSc, MSc, PhD
J. Duffin, BASc, MASc, PhD
I. G. Fantus, BSc, MDCM, FRCP(C)
A. Giacca, MD
R. C. Goode, BPhE, BA, MA, DPhil
G. R. Greenberg, BSc, MD, FRCP(C)
P. E. Hallett, BSc, BM, MA
R. V. Harrison, BSc, PhD, DSc
R. Horner, PhD
K. N. Jeejeebhoy, MB, PhD, MRCP, FRCP(C), FRCP(E)
A. Klip, MSc, PhD, FRSC
H. C. Kwan, BASc, MSc, PhD
S. J. Lye, BSc, MI, PhD
J. F. MacDonald, BSc, PhD ***(Chair)***
W. A. MacKay, BSc, MSc, PhD
S. Matthews, BSc, DPhil
W. E. McIlroy, BSc, MSc, PhD
L. R. Mills, BSc, PhD
N. Mrosovsky, BA, PhD
K. H. Norwich, BSc, MSc, MD, PhD
H. M. O'Brodovich, MD
B. A. Orser, MD, FRCPS(C), PhD
D. H. Osmond, BSA, MSA, PhD
C. Y. Pang, BSc, MSc, PhD
P. S. Pennefather, BSc, PhD
M. E. Percy, BSc, MA, ARCT, PhD
M. J. Plyley, BSc, PhD
B. H. Pomeranz, BSc, MD, CM, PhD, DSc
M. Post, PhD, DVM, Canada Research Chair
M. W. M. Radomski, BSc, MSc, PhD
C. D. Rodgers, BPE, MHK, PhD
N. D. Rosenblum, BSc, MD, FRCPS(C)
M. W. Salter, MD, PhD
B. P. Schimmer, BS, PhD
L. C. Schlichter, BSc, MSc, PhD
J. H. Schneiderman, BSc, MD, FRCP(C)
B. J. Sessle, BDS, BSc, MSD, PhD, FRSC, Canada Research Chair
I. A. Sherman, BSc, MSc, PhD
F. Skinner, BMath, MASc, PhD
M. J. Sole, BSc, MD, FRCP(C)
E. F. Stanley, PhD, Canada Research Chair
G. Steiner, BA, MD, FRCP
R. Stephenson, BSc, PhD
J. K. M. Stevens, BA, PhD
A. K. Tanswell, MBBS, DObstRCOG, MRCP, LMCC, FRCP
S. G. Thomas, BSc, MSc, PhD
R. D. Tomlinson, BSc, MSc, PhD
W. S. Trimble, BSc, PhD
D. Tweed, MD, PhD
M. C. Verrier, DipP&OT, MHSc
M. Vranic, MD, DSc, FRSC
L.-Y. Wang, PhD
V. M. Watt, BSc, MSc, PhD
M. B. Wheeler, BSc, PhD
G. J. Wilson, BSc, MSc, MD, FRCP(C)
C. Wittnich, MSc, DVM
J. M. Wojtowicz, BSc, PhD
C. C. Yip, BSc, PhD

### Associate Members

I. Caniggia, MD, PhD
H. Y. Gaisano, BS, MD, FRCP(C)
W. D. Hutchison, PhD
Z. Jia, PhD
N. L. Jones, MD, FRCPC, PhD
M. Liu, MSc, MD
W.-Y. Lu, MD, PhD
R. C. Renlund, DVM
A.-M. Salapatek, PhD
S. Sugita, BA, MA, PhD
N. Sweezey, BSc, MD
R. G. Tsushima, BSc(Hon), PhD
M. Tymianski, MD, PhD, FRCS(C)
Q. Wan, MD, PhD
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Research in the Department includes:
carbohydrate metabolism
reproduction endocrinology
fetal physiology, pregnancy, and parturition
neuroendocrinology
blood flow
haemostasis
cardiorespiratory regulation
fluid volume and blood pressure regulation
calcium metabolism
gastrointestinal motility
sensory physiology
perceptual theory
motor control
muscle contractility
brain development and aging
neural transmission
excitability and ultrastructure

Admission is determined by the Department of Physiology Graduate Studies Committee and is based on academic record, an essay summarizing background strengths and scientific aims, and at least two confidential letters of reference. 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).The admission standard for the paper-based TOEFL is a minimum score of 600 accompanied by the Test of Written English (TWE) with a minimum score of 5.0. For the computer-based TOEFL test the minimum score is 250 with an Essay Rating score of at least 5.0.

## Degree of Master of Science

### *Admission Requirements*

Acceptance normally requires a 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. Each candidate is recommended to have taken courses in biochemistry, calculus, organic and physical chemistry, general physics, and physiology.

### *Program Requirements*

Course requirements within the master's program vary according to the student's academic background. One full-credit physiology graduate course is required. Students entering the graduate program with an extensive background in physiology will normally have taken a major advanced review course in physiology and will have obtained a standing of at least B+ for such a course. For such students a half-credit graduate course in physiology plus a suitable extradepartmental graduate half-credit course may be approved. The Admissions Committee requires that students without appropriate background in physiology take either the advanced physiology course PSL 1303Y or the review course PSL 1302Y. Either of these courses will fulfil the course requirement for the M.Sc. program. In addition, each candidate is expected to attend the departmental seminar series and must present a research thesis acceptable to the graduate department in order to qualify for the degree.

*Physical sciences stream:* Special incentives are in place to encourage students from undergraduate programs in physics, mathematics, engineering, and other sciences to apply to the master's program. These students will be required to take either the advanced physiology course PSL 1303Y or the review course PSL 1302Y (as their master's course requirement) as arranged with the Graduate Studies Committee. Students enrolled in the Institute of Biomedical Engineering who are registered through the Department of Physiology will take the introductory physiology review course JPB 1022H as part of their master's course requirement.

After 12 to 18 months in the M.Sc. program, students will either write and defend an M.Sc. thesis and graduate, write and defend a thesis and go on to the Ph.D. program, or transfer directly into the Ph.D. program. Direct transfer is permitted for the top students (normally an A-average or better in course work) who have made excellent progress with their research and have demonstrated the desire and potential to meet the requirements of a rigorous research training program. Such students should have the equivalent of at least one first author manuscript either published, in press, or submitted for publication, and a clearly identified program of research for the next three years. Too large a project for the M.Sc. is not a reason for transfer to the Ph.D. For students who transfer from the M.Sc. to the Ph.D. program, course work undertaken during the M.Sc. program may be credited towards the minimum course requirement for the Ph.D. degree.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Candidates may be admitted through transfer from the M.Sc. program or after completion of the M.Sc. degree program or its equivalent from a recognized university. For exceptional students with an A standing in appropriate courses taken during the two preceding undergraduate years, direct entry into the doctoral program is

possible. However, this will require specific approval by the Graduate Studies Committee.

***Program Requirements***

Course requirements for candidates entering without a master's degree will normally be two full-course credits or four half-course credits in which an average standing of at least A- is maintained. Course work for candidates entering with or transferring from a master's degree program (one full credit or two half-credit courses) appropriate for the proposed research program will be determined by an advisory committee in consultation with the student and approved by the Graduate Studies Committee. Students without a background in physiology will take either the advanced physiology course PSL 1303Y or the review course PSL 1302Y which will count as their course requirement. A research proposal for the candidate's research program over the ensuing three years, prepared according to the CIHR grant format, must be presented to members of the graduate department within 13 months of entering the Ph.D. program. The proposal should include a full background for the expected results, pitfalls, alternate strategies, and a budget. Failure to submit the proposal could be a reason to ask the student to withdraw from the program.

The recommended completion time for the doctoral program is about four years. Attendance at and contribution to the departmental seminar program is regarded as an important part of graduate education. Before concluding the program, the student must also demonstrate particular knowledge in his/her own specialty.

**Collaborative Programs**

The department participates in the following collaborative programs:
Cardiovascular Sciences (M.Sc., Ph.D.)
Developmental Biology (Ph.D.)
Neuroscience (M.Sc., Ph.D.)
Toxicology (M.Sc., Ph.D.) (*see* Environmental Studies entry)
For more details, consult the separate entries in this calendar.

**Courses of Instruction**

Students should consult the departmental Web site for course descriptions and availability at www.utoronto.ca/physio/gcourses.htm. Some courses are offered in alternate years only and some courses that are offered may not be given if too few students apply.

Graduate students from other departments who wish to take a course in physiology should consult the Department of Physiology regarding suitable courses.

JCV 3060H Advanced Topics in Cardiovascular Sciences—Molecular Biology and Heart Signal Transduction/ *R. Tsushima*

JCV 3061H Advanced Topics in Cardiovascular Sciences—Hormones/ *C. Wittnich*

JCV 3062H Advanced Research in Cardiovascular Sciences—Heart Function/*C. Wittnich*

JCV 3063H Advanced Research in Cardiovascular Sciences—Vascular/ *C. Wittnich*

JNR 1444Y Fundamentals of Neuroscience: Cellular and Molecular/*P. L. Carlen, Staff of Playfair Neuroscience Unit*

JNS 1000Y Fundamentals of Neuroscience: Systems and Behaviour/ *D. Broussard, Staff*

JPB 1022H Human Physiology as related to Biomedical Engineering/*Staff*

JPB 1055H Bioengineering for Life Scientists/ *Staff*

JPR 1000H Trends in Medical Biotechnology/ *J. MacDonald, J. Parker*

JYG 1555H Topics in Cellular and Molecular Neurobiology/*J. F. MacDonald* (2 hours a week)

PSL 1024H Endocrinology and Neuroendocrinology/*D. Belsham, Staff* (2 hours a week)

PSL 1026H Neurophysiological Experimentation/*H. L. Atwood, Staff*

PSL 1031H Mathematical Theory of Turnover and Transport in Physiological Systems/*K. H. Norwich* (2 hours a week)

PSL 1033H Motor Control Systems/*D. Tweed* (5 hours a week)

PSL 1034H Molecular Endocrinology/*B. P. Schimmer, C. C. Yip* (2 hours a week)

PSL 1036H Advanced Respiratory Physiology/*J. Duffin* (2 hours a week)

PSL 1037H Experimental Surgery/ *R. Renlund, Staff* (4 hours a week)

PSL 1038H Volume, Electrolyte, and Pressure Regulation in Body Fluid Compartments/*D. H. Osmond* (2 hours a week)

PSL 1041H Physiology of Vision/*P. E. Hallett* (2 hours a week)

PSL 1047H Somatosensory Physiology and Pain/*J. O. Dostrovsky, B. J. Sessle* (2 hours a week)

PSL 1052H Fundamentals of Ion Channel Function/*P. Backx, Staff* (2 hours a week)
PSL 1053H Critical Assessment of Ion Channel Function/*P. Backx, Staff* (2 hours a week)
PSL 1054H Physiological Instrumentation and Electronics/*M. P. Charlton, J. Duffin* (4 hours a week)
PSL 1056H Physiological Basis of Adaptation/*R. C. Goode, M. W. M. Radomski* (3 hours a week)
PSL 1059H Auditory and Vestibular Physiology/*R. V. Harrison, R. D. Tomlinson*
PSL 1060H Developmental Cardiovascular Physiology/*C. Wittnich*
PSL 1061H Reproductive Physiology/*T. Brown*
PSL 1062H Risk Factors/Neurophysiological Consequences in Developmental Neurological Disorders/*M. E. Percy* (2 hours a week)
PSL 1302Y Human Physiology: An Overview/*H. C. Kwan, W. A. MacKay, Staff*
PSL 1303Y Advanced Physiology/*M. P. Charlton, Staff* (4 hours a week)
PSL 1421H Pregnancy and Birth: From Implantation to Newborn/*S. J. Lye, Staff*
PSL 1425H Integrative Metabolism and Its Endocrine Regulation/*A. Giacca, G. H. Anderson, I. G. Fantus, V. M. Watt*
PSL 1431H Mathematics for Physiology/*K. H. Norwich* (2 hours a week)
PSL 1432H Theoretical Physiology/*K. H. Norwich* (2 hours a week)
PSL 1460H Molecular Physiology/*M. Wheeler, Staff*
PSL 1462H Molecular Aspects of Cardiac Function/*P. Backx, Staff*
PSL 1472H Sleep Physiology and Chronobiology/*R. Stephenson, R. L. Horner*
PSL 1480H Investigative Developmental Physiology/*S. Matthews*
PSL 1497H Scientific Communication/*V. M. Watt*

# Planning PLA

## Graduate Faculty

### Full Members

C. G. Amrhein, BSc, PhD, MCIP
L. S. Bourne, BA, MA, PhD, FRSC, MCIP, Hon Causa
J. N. H. Britton, BA, MA, PhD
M. Bunce, BA, PhD
A. G. Daniere, MPP, PhD, MCIP
***(Director)***
M. L. Diamond, MSc, PhD
R. J. DiFrancesco, MA, PhD, MCIP
R. el-Khoury, BFA, BArch, MScAS, MArch, PhD
G. Gad, DrPhil, PhD
M. S. Gertler, BA, MCP, PhD, MCIP, Goldring Chair in Canadian Studies (UC)
L. D. D. Harvey, BSc, MSc, PhD
J. D. Hulchanski, BA, MSc(Pl), PhD, MCIP
R. D. Lewis, BA, MA, PhD
V. W. Maclaren, BA, MRP, MSc, PhD, MCIP
D. A. McQuillan, BA, MA, PhD, DipEd
W. Michelson, AB, AM, PhD, FRSC, S.D. Clark Chair in Sociology
E. J. Miller, BASc, MASc, PhD, Bahen/Tanenbaum Professor
J. R. Miron, BA, MA, MSc, PhD
E. C. Relph, BA, MPh, PhD
S. Ruddick, BES, MA, PhD, MCIP
R. R. White, BA, MSc, PhD

### Members Emeriti

J. T. Lemon, MS, PhD
S. T. Roweis, MSc, PhD
J. W. Simmons, MA, PhD
R. M. Soberman, BSc, SM, PhD, PEng
A. Waterhouse, MSc, PhD, MCIP
J. B. R. Whitney, PhD, MCIP

### Associate Members

J. W. Danahy, BLA, CUrbDes, MScUrb&DesPl
J. Farrow, MBA, MCIP
M. Goldhar, BA
K. Goonewardena, BSc, MPl, PhD
J. Hackworth, BA, MA, MEP, PhD
J. R. Hitchcock, PhD, MCIP
J. Layton, BA, MA, PhD
S. M. Makuch, LLM
S. Prudham, BArtSc, MA, PhD
K. N. Rankin, BA, MRP, PhD
B. I. Savan, BSc, PhD, MCIP
N. E. Slack, PhD
A. Sorensen, BA, MSc, PhD
P. L. Van Loan, LLB, MScPl
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**Degree of Master of Science in Planning**
This program, leading to a Master of Science in Planning (M.Sc.Pl.), is directed toward professional education in the fields of urban, environmental, economic, and social planning, as well as urban design. Almost half of the program deals with a core of material considered essential to general practice, while the remainder allows the candidate to specialize in one of five sub-fields. Workshops and seminars in the program provide contact with many senior professionals engaged in public and private practice. The program also provides access to courses and research facilities available in many other graduate departments, centres, and institutes across the University.

***Admission Requirements***
Candidates are admitted under the general regulations of the School of Graduate Studies. In addition, applicants must have an average of at least B+ standing in the social or life sciences, or the humanities, or the professions. A knowledge of introductory economics and statistics, as well as word processing and spreadsheet skills, is preferred prior to entry.

***Program Requirements***
Candidates 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.

**Note:** All courses are not given every year; some faculty members are on research leave. Please consult the departmental graduate office for details.

**1** The program consists of 16 half-courses, taken over 2 years. This includes the following six required courses (the core):
PLA 1101H Issues in Planning History, Thought, and Practice/ *M. Gertler, Staff*

PLA 1102H Urban and Regional Dynamics/ *R. J. DiFrancesco*
PLA 1103H Legal Basis of Planning/*S. M. Makuch*
PLA 1105H Planning Decision Methods/*A. G. Daniere*
PLA 1106H Workshop in Planning Practice/ *A. G. Daniere, M. S. Gertler*
PLA 1107Y Current Issues Paper/*Staff*

**2** A further nine half-courses (exclusive of PLA 4444H) are chosen from the following list of electives and from the offerings of other departments, centres, and institutes. At least five of these courses must fit into an approved specialization in one of the following fields:

Urban Planning and Development
Environmental Planning
Social Planning and Policy
Economic Planning and Policy
Urban Design

**3** The requirements for the degree must be completed within six years of first registration in the program.

**4** Normal Timing

| First Year | | Second Year | |
|---|---|---|---|
| Fall Session | Winter Session | Fall Session | Winter Session |
| 1101H | 1102H | 1106H | 1107Y |
| 1103H | 1105H | 1107Y | 3 electives |
| 2 electives | 2 electives | 2 electives | |

***Elective Courses***

JPG 1404H Issues in Global Warming/*L. D. D. Harvey*
JPG 1413H Workshop in Environmental Impact Assessment/*V. W. Maclaren, Staff*
JPG 1414H Cities as Ecosystems/*R. White*
JPG 1415H Environmental Justice/*R. Jaakson*
JPG 1418H Rural Land Use Planning/ *M. Bunce*
JGE 1420H Urban Waste Management: an International Perspective/ *V. Maclaren*
JPG 1501H Urban Spatial Structure and Growth/*J. Hackworth*
PLA 1502H Neighbourhood and Community Planning/*K. Goonewardena*
PLA 1503H Planning and Social Policy/ *S. Ruddick*
PLA 1505H Urban Development Controls/ *P. L. Van Loan*
JPG 1506H Urban and Regional Social Policy: An International Perspective/ *S. Ruddick*
JPG 1507H Housing and Housing Policy/ *L. S. Bourne*
JPG 1508H Planning for the Urban Poor in Developing Countries/ *A. Daniere*
JPG 1509H Gender Planning and International Development/*K. N. Rankin*
PLA 1551H Policy Analysis/*J. Farrow*
PLA 1552H City Planning and Management/ *J. Farrow*
PLA 1553H Urban Transportation Policy Analysis/*Staff*
PLA 1601H Environmental Planning and Policy/*V. W. Maclaren*
JPG 1614H Regional Development and Policy/*M. S. Gertler*
JPG 1615H Planning and Financing the Social Economy/*K. N. Rankin*
PLA 1650H Urban Design: History Theory Criticism/*K. Goonewardena*
PLA 1651H Planning and Real Estate Development/*M. Goldhar*
PLA 1652H Urban Design in Practice/ *J. Danahy, Staff*
PLA 1653H Advanced Workshop in Urban Design/*Staff*
PLA 1654H Urban Design Research Methods/ *Staff*
PLA 1655H Urban Design and Development/ *Staff*
JPG 1670H Regional Economic Analysis/*R. J. DiFrancesco*
JPG 1702H Historical Urban Geography and Planning/*R. D. Lewis*
JPG 1710H Historic Preservation Planning/ *D. A. McQuillan*
JPG 1713H Place, Design, and Landscape/ *E. C. Relph*
PLA 1751H Public Finance for Planners/ *N. E. Slack*
JPG 1804H Space, Power and Geography: Understanding Spatiality/ *S. Ruddick*
JPG 1810H Globalization andPostmodernism/ *K. Goonewardena*
PLA 1904H Law and Planning/*S. M. Makuch, Staff*
JPG 1909H Social Survey Methods/ *R. Jaakson*
JPG 1914H Spatial Information Systems/ *J. Chen*

PLA 4444H Internship (Credit/No Credit)/*Staff*
Designates the internship which may be undertaken by master's students in the Planning Program. It cannot be used to fulfil the course requirements for the degree.
PLA 1149H Independent Study

**Degree of Master of Urban Design Studies**
The Master of Urban Design Studies (MUDS) is a one-year professional degree program intended to provide intensive, advanced education in the principles and practices of Urban Design for students who plan to pursue a career in an urban discipline. Reflecting its interdisciplinary foundations, the MUDS program will emphasize a strong social science orientation. 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.

This new program coincides 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. Together, these two new degree programs, in addition to the specialization in Urban Design within the Master of Science in Planning program, constitute a closely integrated suite of graduate programs in the discipline of Urban Design.

The MUDS program may be taken on a full-time or part-time basis.

***Admission Requirements***
Applications are encouraged from candidates with prior degrees in a range of disciplines including planning, geography, other social sciences, the design disciplines, business administration, and law. Three possible entry streams are anticipated.
**1** For students with a 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.
**2** For applicants with a 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.
**3** Students with a 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.

***Program Requirements***
Students are required to take a total of eight half-courses. Students entering the program with significant prior design workshop/studio experience (as determined by the admissions committee) must complete a core program of five half-courses plus a further three half-courses chosen form 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 a core program of six half-courses plus a further two half-courses of electives. The requirements for the degree 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 the time of first registration in the program. Part-time students will be expected to participate in the same class meetings as full-time students.

***Core Courses***
The core program is composed of five half-courses (six half-courses for those entering the program without significant prior design workshop/studio experience) that encompass the practical, theoretical, and methodological aspects of urban design.

The course sequence for the core program is:

*First Session*
PLA 1650H/URD 1031H Urban Design: History Theory Criticism
PLA 1654H Urban Design Research Methods

Students without significant design workshop/studio experience must take:
PLA 1652H Urban Design in Practice
or
PLA 1502H Neighbourhood and Community Planning

Plus one or two electives

*Second Session*
JPG 1501H Urban Spatial Structure and Growth
PLA 1653H Advanced Workshop in Urban Design
PLA 1655H Urban Design and Development
Plus one elective

# Policy Analysis

Graduate faculty of the University who are Associates of the Institute

**Full Members**

W. M. D. Baker, BCom, MA, PhD
H. D. Benjamin, BSc, MA, PhD
L. Brandt, BS, MS, PhD
J. L. Carr, BCom, MA, PhD
B. Chapman, BA, LLB, PhD
P. C. Coyte, BA, MA, PhD
R. J. Daniels, BA, LLB, LLM
M. Faig, BA, MEc, PhD
M. H. Gunderson, BA, MA, PhD, CIBC Professor of Youth Employment
I. J. Horstmann, BA, PhD
A. J. Hosios, BEng, MA, MEng, PhD
D. E. Hyatt, BA, MA, PhD
G. V. Jump, BA, PhD
J. G. MacIntosh, BSc, LLB, LLM, The Toronto Stock Exchange Chair in Capital Markets
G. F. Mathewson, BCom, PhD ***(Director)***
T. H. McCurdy, BA, MA, PhD
A. Melino, BA, PhD
J. M. Mintz, BA, MA, PhD
S. Moorthy, BSc, MBA, MS, PhD
P. H. Pauly, MA, PhD
J. E. Pesando, BA, MA, PhD
A. Siow, BA, PhD
M. Smart, BA, MA, PhD
W. C. Strange, BA, MA PhD
S. M. Tanny, BSc, PhD
M. J. Trebilcock, LLB, LLM, FRSC, University Professor
D. Trefler, BA, MPh, PhD
T. A. Wilson, BA, AM, PhD, FRSC
R. A. Winter, BSc, MA, PhD
A. J. Yatchew, BA, MA, PhD

**Members Emeriti**

J. A. Sawyer, BComm, MA, PhD

**Associate Members**

N. Soboleva, BSc, MA, MPh, PhD
M. Stabile, BA, MA, PhD

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The Institute's objective is to develop and maintain a research program in economic and social policy that complements graduate studies in the social sciences, business and law. To promote research, the Institute offers office space and support to relevant faculty. The Institute may also arrange for the publication of research results of Associates.

Research projects in process in the previous academic year cover a diverse set of issues and topics. These include agrarian contracts, channel relationships, competition policy, contracting theory and restrictive business practices, criminal law enforcement, economics of commissions, economics of aging, effects of tax policy and uncertainty on direct investment flows, empirical applications in industrial organization, empirical applications in international trade, financial sector regulation and its reform, firm organization, fiscal federalism, immigration policy, international trade policy, international trade flows and the impact of trade on labour markets, investment irreversibility, liability rules, macroeconomic policy, monetary policy, multinational enterprise, non-parametric estimation and inference, penalties and liquidated damages, population and growth, price anomalies in auctions, price discrimination, private-public partnerships, professional corporation, reform of Canada's public pension system, refusals to supply, retail competition and distribution, topics in industrial organization, topics in international trade, taxation, and worker's compensation.

The Institute offers office accommodation to a select number of senior graduate students working with Institute Associates. As well, the Institute occasionally employs graduate students as research assistants on a part-time basis during the academic year and on a full-time basis in the summer months.

The Institute, in cooperation with teaching departments in related fields, offers a variety of seminars and workshops on subjects related to the research projects being carried out within the Institute. The objective of these seminars and workshops is to promote greater interaction between faculty and graduate students, and between those within the University and those in government and the private sector. In the previous academic year, the Institute sponsored the following workshops jointly with the Department of Economics:

| | |
|---|---|
| ECO 2304Y | Workshop in International Economics (Credit/No Credit) |
| ECO 2550Y | Workshop in Monetary and Macro Economics |
| ECO 2607Y | Workshop in Public Economics |
| ECO 2806Y | Workshop in Labour Economics |
| ECO 2909Y | Workshop in Industrial Organization |

# Political Science POL

## Graduate Faculty

### Full Members

E. Adler, BA, MA, PhD, Andrea and Charles Bronfman Chair in Israeli Studies
S. B. Bashevkin, BA, MA, PhD
R. S. Beiner, BA, DPhil
A. Braun, BA, MA, PhD
A. Brudner, BA, MA, LLB, PhD
D. R. Cameron, MSc, BA, PhD
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J. H. Carens, AB, MPhil(Theol), MPhil, PhD
S. E. Chambers, BA, MA, MPhil, PhD
S. H. E. Clarkson, BA, MA, D de Rech
D. B. Cook, BA, MA, PhD
F. Cunningham, BA, MA, PhD, FRSC
R. B. Day, BA, MA, Dip REES, PhD
R. B. Deber, SB, SM, PhD
R. J. Deibert, BA, MA, PhD
M. W. Donnelly, BS, Institute Certificate, MA, PhD, David Chu Professor of Asia-Pacific Studies
D. L. Eyoh, BA, MA, PhD
V. C. Falkenheim, BA, MA, PhD
J. F. Fletcher, BA, MA, PhD
H. D. Forbes, BA, MA, PhD
T. F. Homer-Dixon, BA, PhD
J. R. Iton, BA, MA, PhD
P. W. T. Kingston, BA, MA, MPhil, DPhil
J. J. Kirton, BA, MA, PhD
A. A. Kontos, Barrister at Law, MA, PhD
J. S. Kopstein, BA, MA, PhD
L. LeDuc, BA, MA, PhD
P. R. Magocsi, AB, MA, MA, PhD, FRSC
R. A. Manzer, BA, BEd, BA, MA, PhD
R. O. Matthews, BA, MIA, PhD
P. L. McCarney, BA, MCP, PhD
J. Nedelsky, BA, MA, PhD
N. Nevitte, BA, MA, PhD
C. Orwin, AB, MA, PhD
T. L. Pangle, AB, PhD, FRSC, University Professor
L. W. Pauly, BA, MA, MSc, MA, PhD
D. M. Rayside, BA, AM, PhD
***(Coordinator of Graduate Studies)***
A. G. Rubinoff, BA, MA, PhD
K. R. J. Sandbrook, BA, MA, DPhil, FRSC
D. V. Schwartz, BA, MA, PhD
P. Silcox, BA, MA, PhD
R. E. B. Simeon, BA, MA, PhD
G. Skogstad, BA, MA, PhD
P. H. Solomon, BA, MA, CertRussInst, PhD
S. G. Solomon, BA, MA, CertRussInst, PhD
J. G. Stein, BA, MA, PhD, FRSC, University Professor, Harrowston Professor of Conflict Management and Negotiation
R. E. Stren, BA, MA, PhD
J. A. Teichman, BA, MA, PhD
J. Tully, BA, MA, PhD, Jackman Chair in Philosophic Studies
C. J. Tuohy, BA, MA, PhD
R. C. Vipond, BA, AM, MA, PhD
L. E. Weinrib, BA, LLB, LLM
D. A. Welch, BA, AM, PhD, Ignatieff Chair
G. White, BA, MA, PhD
M. Williams, AB, AM, PhD
N. Wiseman, BA, MA, PhD
D. A. Wolfe, BA, MA, PhD

### Members Emeriti

E. G. Andrew, BA, PhD
J. S. Barker, AB, MA, PhD
M. Brownstone, BSc, MS, DPA, LLD
J. S. Dupré, BA, AM, PhD, DScSoc, LLD, DU, OC, O Ont
R. Gregor, BA, MA, PhD
F. J. C. Griffiths, BA, MIA, PhD
G. Horowitz, BA, MA, PhD
J. T. McLeod, BA, MA, PhD
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A. Rotstein, BA, PhD
P. H. Russell, BA, BA, LLD, FRSC, OC, University Professor Emeritus
C. D. Shearing, BSocSci, MA, PhD
M. H. Watkins, BCom

### Associate Members

A. Alexandroff, BA, MA, MA, PhD, LLB, PhD
S. Bernstein, BA, MA, PhD
J. Bertrand, BA, MSc, MA, PhD
J. E. Esberey, BA, BEd, BSc, MA, PhD
H. Farrell, BA, MA, MA, PhD
R. Hirschl, BA, LLB, MA, MPhil, PhD
L. Hooghe, Cand, Lic, Doct
G. Indart, BA, MA, PhD
R. E. D. Kingston, BA, MA, Certificat d'études politiques (C.E.P.), PhD
N. Kokaz, BA, BA, MA, PhD
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Application packages are available from the Department or the Department's Web page: www.chass.utoronto.ca/polsci/Graduate/gradinfo.html. All applicants are required to submit a sample of their written work and a statement of intent to the Department as part of the application process. M.A. applicants must arrange for three letters of academic recommendation to be sent to the Department, and Ph.D. candidates must arrange for four letters. Details of the programs are printed in the booklet *Graduate Information Guide*, which is available from the Department of Political Science or on its Web site.

**Degree of Master of Arts**

***Admission Requirements***
The minimum admission requirement for the M.A. programs is a cumulative grade average of B+ or better in a bachelor's program equivalent to a University of Toronto four-year bachelor's degree program. Students are expected to have completed at least five to eight suitably distributed courses in political science with at least a B+ average. 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.

Students seeking entry into the M.A. programs but lacking a four-year specialist degree or the minimum required number of political science courses should consider doing qualifying work at the undergraduate level prior to application. Such work should be undertaken in consultation with the M.A. supervisor.

***Program Requirements***
The minimum requirement is the equivalent of four full graduate courses. 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 one full political science course with the approval of the Department. The equivalent of one full course may be taken in a cognate discipline with the approval of the Department. For students intending to proceed to a Ph.D. at the University of Toronto, there are advantages to planning the M.A. program with a view to eventually meeting Ph.D. requirements.

The departmental M.A. comprises two streams:

**1** Political Theory
**2** Politics and Policy

Students are admitted to one stream and may switch streams once in the program only with permission of the M.A. Supervisor.

*Departmental M.A.—Political Theory Stream*
This stream is intended primarily for those students who wish to concentrate their studies in the theory area. Students in this stream will normally take three full courses in the Political Theory subfield. They are also required to take at least one full course in an area other than Political Theory. All courses in this program should be chosen in consultation with the M.A. Supervisor.

*Departmental M.A.—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 taken must include at least one half-course in Political Theory, which can be either the half-course offered by the Department specifically for this purpose (POL 2040H) or any other theory course. Also required is at least one half-course 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 M.A. Supervisor.

*Specialist Program in Political Economy of Development*
Students who enter this program must have a satisfactory background in political science and undergraduate prerequisites in microeconomics, macroeconomics, and statistics. Note that 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.

In this program all students are required to take JPE 2408Y *Political Economy of International Development*. In addition, students must complete the equivalent of one full graduate course in Economics 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.

*Specialist Program in Public Policy and Global Economy - Transatlantic Masters Program*
The Transatlantic Masters Program in Public Policy and Global Economy offered in cooperation with McMaster University and the University of Montreal, enables students to study and do research at one of four European partner universities (Bath, United Kingdom; Tilburg, Netherlands; Maynooth, Ireland; and Bremen, Germany). Program requirements include a thesis and course work in the fields of comparative public policy, policy analysis, comparative research methods, and globalisation and supra-national structures. Admission requirements and the application procedure are the same as those for the Master of Arts program in Political Science.

## Degree of Doctor of Philosophy

### *Admission Requirements*
Admission to the Ph.D. program is offered only to excellent students who have either completed an M.A. degree in political science (or its equivalent) by the time of enrolment or have completed the equivalent of a four-year B.A. with a concentration in political science by the time of enrolment. It is expected that most successful applicants will have completed or be in the process of completing an M.A. Only exceptional students will be admitted directly to the Ph.D. program from the B.A. Applicants from both levels are expected to have achieved grades averaging A- or better in their most recent degree. Applicants from the B.A. level will apply to the M.A. program but indicate on the M.A. application form that they wish to be considered for direct entry to the Ph.D. program.

### *Program Requirements*
**1** *Course requirements*
The Department offers graduate courses in the following five core fields:
Political Theory
Canadian Government and Politics
International Relations
Comparative Government—Developing Societies
Comparative Government—Industrial Societies

Many of the principal teaching and research interests of the Department's faculty focus on areas which cut across the conventional core fields. These are designated as areas of specialization which provide an alternative way of structuring the graduate program. Currently the following areas of specialization are offered:
Public Policy (PP)
Political Economy (PEC)
Public Law and Federalism (PLF)
Political Behaviour and Democratic Politics (PBD)
Women, Gender, and Politics (WGP)

Students who enter the Ph.D. program from a B.A. should aim to complete their work within five years. They will take a total of six full graduate courses, of which four, including one half-course in political theory, will normally be taken in the first year. Successful completion of the first four courses will lead to the granting of an M.A. degree. Students will need to attain at least an A- average in their first four courses in order to continue in the Ph.D. program. The remaining two courses, including the core course in the major field, will be taken in the second year, along with the qualifying examination in the major field. In selecting their courses, students should ensure that they satisfy the field and/or area requirements as described below for those entering the Ph.D. program with an M.A.

Students who enter the Ph.D. program from an M.A. should aim to complete their work within four years. They will take between two and five full courses, depending on their relevant background in the major and minor fields/areas they choose to pursue. All Ph.D. students are also required to have at least one graduate half-course in political theory. All Ph.D. students in majors other than Political Theory are also required to complete one half-course in research methods and design. Graduate courses taken at the M.A. level at the University of Toronto or elsewhere may be counted, with the Department's permission, towards meeting some course requirements. It is expected that most students who enter from the M.A. will take the equivalent of three full courses to satisfy program requirements; all Ph.D. students must take a minimum of two full courses with the Department after entering the Ph.D. program.

Ph.D. students have the option of organizing their course work in one of two ways:
**a** *A major core field and a minor core field*
Students who choose this option must take the core course plus the equivalent of one other full-year course in the major field, and the core course plus the equivalent of one other full-year course in their minor field.
**b** *A major core field and an area of specialization*
Students who choose this option must take the core course plus the equivalent of one other full-

year course in their major field and the equivalent of two full-year courses in their area of specialization, at least one of which must be outside the major field.

**2** *Major field examination*
By the end of the second year of the program, all Ph.D. students will be expected to have taken a written 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 on the subject matter of the core course. In Political Theory, it is based on a list of texts made available by the Department.

The major field examination should be taken in May or August of the year in which the core course is taken as long as all assignments in the core course have been completed. The examination must be taken no later than the second year of the Ph.D. program. A student who fails to achieve a grade of at least A- is permitted one opportunity to rewrite the examination. If, after failing the examination once, the major field is changed, the student is permitted two attempts to pass the examination in the new field.

**3** *Thesis proposal, thesis committee, and thesis schedule*
Students should assign a high priority to defining a thesis topic and choosing a thesis committee. Those entering the Ph.D. program from an M.A. must identify a working thesis topic and the name of a supervisor by October 15 of their second year. Those entering the program from a B.A. must do so by October 15 of their third year. Six months later, in both cases, the student must (a) have established a thesis committee of three faculty members including a thesis supervisor, and (b) have completed a thesis proposal of approximately 25 pages for submission to the thesis committee.

The research and writing of the thesis will follow the acceptance of the thesis proposal. The work schedule should permit the student to complete his/her thesis by the end of the fourth year (in the case of those admitted from an M.A.) or the fifth year (in the case of those admitted from a B.A.).

**4** *Language requirement*
To satisfy the language requirement, students must demonstrate a competence in French or in an approved language appropriate to the nature of the graduate work in which they are engaged. This requirement is to be met by the end of the third year of study.

**5** *Residency requirements*
Those entering the program from an M.A. must spend a minimum of three sessions in residence. Those entering from a B.A. must spend a minimum of six sessions in residence.

*Transfer Between the M.A. and Ph.D. Programs*
Students admitted to the Ph.D. from a B.A. (or equivalent degree) who receive less than an A-average in their first four courses will be transferred to the M.A. program. They will graduate with a terminal M.A., provided their grades meet the requirements of the M.A. degree.

In exceptional cases, on the initiative of the Director of Graduate Studies, students may be transferred from the M.A. to the Ph.D. program. Such transfers will occur only where a full assessment of a candidate's B.A. record (or equivalent) was impossible and where that candidate's instructors concur that the student in question has excelled in the first half of the M.A. program.

## Collaborative Programs

***Asia-Pacific Studies Collaborative Program***
The Department of Political Science participates in the Collaborative Master of Arts Program in Asia-Pacific Studies. This program provides graduates with advanced training in traditional disciplines as well as interdisciplinary expertise in modern East and Southeast Asia. The major topical areas of study include political economy, modern and contemporary social history, international relations, gender and the family, political and social change, economic development, and cultural studies. For more information about the program, refer to the Asia-Pacific Studies (Collaborative Program) entry in this calendar.

***Environmental Studies Collaborative Program***
The Department of Political Science, in conjunction with the Institute for Environmental Studies (IES) and other departments, offers a collaborative master's program in Environmental Studies. Students in the program take two core half-courses offered by the Institute, one specialized IES half-course, and the equivalent of 2.5 graduate courses in Political Science. An internship, culminating in a research essay, is also required. For further information, consult the Environmental Studies (Collaborative Program) entry in this calendar.

### *Ethnic and Pluralism Studies Collaborative Program*

Together with a number of other departments, the Department of Political Science participates in the Collaborative Program in Ethnic and Pluralism Studies. Students must take two half-courses in ethnicity from two different disciplines, the coordinating seminar in ethnicity (JTH 3000H) and, if a thesis is written, it should be in an ethnic studies area. For more details, consult the Ethnic and Pluralism Studies (Collaborative Program) entry in this calendar.

### *International Relations Collaborative Program*

The Department participates in the Collaborative Program in International Relations. Admission to this program is restricted and highly competitive. Application is made to the home department through the normal procedures. In addition, a statement of interest, *curriculum vitae*, and copies of transcripts should be sent to the Director, International Relations Collaborative Program. For further information, consult the International Relations (Collaborative Program) entry in this calendar.

In addition, a combined J.D./M.A. in Political Science (specialization in International Relations) is available to students currently in, or applying to enter, first year Law at the University of Toronto.

### *Women's Studies Collaborative Program*

Together with other departments, the Department of Political Science participates in the Women's Studies Collaborative Program leading to an M.A. or a Ph.D. Students in this program must complete regular degree requirements and pursue a program of study acceptable to both the Department and the Women's Studies Collaborative Program. Upon successful completion of the requirements, students will receive a degree with the notation "Completed Collaborative Program in Women's Studies" on their transcript.

For further information, consult the Women's Studies (Collaborative Program) entry in this calendar.

### Courses of Instruction

Some courses listed have an undergraduate component and begin the first week of term. POL 2501Y is a general methods course, the research component of which depends on the student's declared area of specialization. Thus, it may be counted for credit in the major field or be taken to fulfill the methods requirement, but it does not count toward the Political Theory major and does not count as fulfilling the theory requirement.

Not all courses are given every year. Consult departmental timetable.

### *Political Theory*

| | |
|---|---|
| POL 2000Y | Comparative Studies in the History of Political Thought (core course)/*Staff* |
| POL 2001Y | Problems of Political Community/ *J. H. Carens* |
| POL 2004Y | Marxism/*R. B. Day* |
| POL 2006Y | Studies in Modern Political Theory/*Staff* |
| POL 2007Y | Twentieth-Century Political Thought/*A. A. Kontos* |
| POL 2008Y | The Political Theory of G. W. F. Hegel/*A. Brudner* |
| POL 2010H | Democratic Theory/*Staff* |
| POL 2011Y | Problems in Political Thought of the Socratic School/*Staff* |
| POL 2013H | Liberal Democracy and Its Critics/ *Staff* |
| POL 2014Y | The Problem of Natural Right/ *Staff* |
| POL 2019Y | Perspectives on Political Economy/*R. B. Day* |
| POL 2021Y | Comparative Studies in Jewish and Non-Jewish Political Thought/*C. Orwin* |
| POL 2022Y | Modes of Political Inquiry/ *H. D. Forbes* |
| POL 2024Y | Feminist Theory: Challenges to Legal and Political Thought/ *J. Nedelsky* |
| POL 2025Y | Enlightenment and Its Critics/*T. L. Pangle* |
| POL 2026H | Topics in Political Thought I/*Staff* |
| POL 2027H | Topics in Political Thought II/*Staff* |
| JPJ 2028H | Constitutional Theory/*A. Brudner* |
| JPD 2029H | Sociological Theory II/*Staff* |
| POL 2030Y | Democratic Citizenship/ *G. Horowitz* |
| JPJ 2032Y | Citizenship Theory and Immigration Law |
| POL 2032H | Judgement in Law and Politics/ *J. Nedelsky* |
| JPJ 2036Y | Comparative Constitutionalism: Rights and Judicial Review/ *Staff* |
| JPD 2037Y | Post-Modern and Contemporary Thought/*D. Cook* |
| POL 2038Y | Problems of Pluralism and Equality/*M. S. Williams* |
| POL 2040H | Horizons of Political Reflection/ *R. Beiner* |

***Canadian Government and Politics***

POL 2100Y Government of Canada (core course)/*S. B. Bashevkin, R. E. B. Simeon*
POL 2101Y Politics and the Media/*Staff*
POL 2102H Topics in Canadian Politics I/ *G. White*
POL 2103H Topics in Canadian Politics II/*Staff*
POL 2107H Local Government in Canada/ *Staff*
POL 2109H Cases in Canadian Public Administration/*Staff*
POL 2110H The Politics of Public Sector Budgeting/*C. McFadyen*
JPJ 2116H Constitutional Politics/*Staff*
JPJ 2119Y Numbers, Voice and Representation: Women and Public Policy in Comparative Perspective/*S. Bashevkin*
JPJ 2020H Law and Public Policy/*R. Simeon*
POL 2125H Experiencing Public Policy-Making/*Staff*
POL 2127H Canadian Theories of Multiculturalism/*H D. Forbes*
HAD 5010H Canada's Health System and Health Policy I/*R. Deber*
HAD 5765H Case Studies in Health Policy/ *R. Deber*

***International Relations***

JPJ 2035H International Taxation
JPJ 2037H International Trade Regulation
JPJ 2038H Law, the Individual and the Community: A Cross-Cultural Dialogue
JPJ 2039H European Community Law
JPJ 2041H International Criminal Law
JPJ 2042H Labour Policy
JPJ 2043H Self-Determination
JPJ 2044H First Nations and the Constitution/ *P. Macklem*
JPJ 2045H Institutionalizing Doubt: Modernity and the Challenge to Traditional Legal Traditions
JPJ 2046H Law, Institutions and Development
JPJ 2047H Comparative Constitutional Law
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 2200Y International Politics (core course)/*F. J. C. Griffiths, L. W. Pauly*
POL 2201Y International Political Economy/ *L. W. Pauly*
POL 2204Y The Politics of Planetary Networks/*R. Deibert*
POL 2205H Topics in International Politics I/ *Staff*
POL 2206H Topics in International Politics II/ *Staff*
POL 2208Y Third World Politics in International Affairs/*Staff*
POL 2212Y Canada and the Third World/ *C. Pratt*
POL 2216Y The Military Instrument of Foreign Policy/*A. Braun*
POL 2217Y Politics of the International System/*A. Rubinoff*
POL 2225Y Environmental Change/*T. Homer-Dixon*
JPJ 2226H Theory of Negotiation/*P. Siller, J. G. Stein*
JUP 2227Y Contemporary Issues in Peace and Conflict
POL 2228H The Dynamics of the Global Trade System/*S. Clarkson*
POL 2229H The G8 and Global Governance I/ *J. Kirton*
JBP 2230H Topics in International Politics/ *B. Fischer, F. McKenzie*
POL 2230H The G8 and Global Governance II/*J. Kirton*
JHP 2231H The History and Philosophy of International Relations Thought/ *J. Graff, W. Wark, D. Welch*
JPD 2232H International Governance/ *H. Friedmann, J. Kirton*
POL 2233H Conflict and Conflict Management/*B. Fischer, A. Alexandroff*

***Comparative Government (Industrial Societies)***

JPV 1201H Politics, Bureaucracy, and the Environment/*R. E. Stren*
JHP 1289Y Twentieth-Century Ukraine/ *P. Magosci*
JPJ 2036Y Comparative Constitutionalism: Rights and Judicial Review/*Staff*
JPJ 2116H Constitutional Politics/*Staff*
POL 2300Y Comparative Politics of Industrial Societies (core course)/ *L. LeDuc, L. Hooghe*
POL 2302Y Topics in U.S. Government and Politics/*R. Iton*
POL 2304Y Soviet and Post-Soviet Politics (exclusion to POL 2324H)/*D. V. Schwartz, P. H. Solomon*
POL 2307H The Political Economy of Technology: From the Auto-Industrial to the Information Age/*Staff*
POL 2308Y Politics and Governments of Eastern Europe/*A. Braun*
POL 2313Y Comparative Political Parties and Elections/*L. LeDuc*

POL 2314Y Political Economy of Asia Pacific/ *M. Donnelly*
POL 2316H Women and Politics/*S. Bashevkin*
POL 2317H Politics and Policy Analysis/ *R. Manzer*
POL 2318H Comparative Public Policies: Selected Areas/*G. Skogstad*
POL 2321H Topics in Comparative Politics I
POL 2322H Topics in Comparative Politics II
POL 2323Y Multilevel Politics: The European Union in Comparative Perspective/*L. Hooghe*
POL 2324H Ethnonationalism and State-Building: The Communist and Post-Communist Experience (exclusion to POL 2304Y)/ *D. Schwartz*
JPJ 2394H Innovation and Knowledge Transfer in Regional Industry Clusters/ *D. Wolfe*

***Comparative Government (Developing Societies)***

POL 2208Y Third World Politics in International Affairs/*Staff*
POL 2400Y Theories and Issues: The Politics of Development (core course)/ *R. Sandbrook, P. L. McCarney*
POL 2403H Topics in African Politics I/ *J. Barker*
POL 2404H Topics in African Politics II/ *D. L. Eyoh*
POL 2405H,Y Topics in Latin American Politics/ *Staff*
JPE 2408Y Political Economy of International Development/*R. Sandbrook, G. Indart*
POL 2409Y Politics and Planning in Third World Cities/*P. L. McCarney*
POL 2411H,Y Topics in Asian Politics
POL 2413Y Politics, Culture, and Identity in Southeast Asia/*J. Bertrand*
JPE 2415Y Research Essay in the Political Economy of Development/*Staff*
POL 2416Y Politics and Society in Contemporary China/*V. C. Falkenheim*
POL 2417H Bureaucracy and Development/ *C. Gombay*
POL 2418H Topics in Middle East Politics/ *P. W. T. Kingston*
JPF 2430Y Cities/*P. L. McCarney, Staff*

***Miscellaneous***

POL 2501Y Research Methods and Design/ *L. LeDuc*
POL 2502Y Quantitative Methods and Data Analysis/*J. F. Fletcher*
POL 2503H Thinking Through Research Design/*N. Nevitte*
POL 2504H Statistics for Political Scientists/ *H. D. Forbes*
POL 2810Y Research Seminar I/*Staff*
POL 2811Y Research Seminar II/*Staff*
POL 2904Y A reading course in an approved special field
POL 2905H A reading course in an approved special field
POL 2906Y A reading course in an approved special field

# Psychology PSY

## Graduate Faculty

### Full Members

R. Abramovitch, BA, MA, PhD
C. Alain, BA, MA, PhD
T. M. Alloway, BA, MA, PhD
N. Anderson, BA, MA, PhD, CPsych
J. W. Astington, BA, BSc, MA, PhD
L. R. Atkinson, BA, MA, PhD, CPsych
J. N. Bassili, BA, PhD
P. J. Bennett, PhD
K. R. Blankstein, BA, MA, PhD
A. L. Chasteen, BA, MA, PhD
C. M. Corter, BA, PhD
J. A. Cunningham, BSc, MA, PhD
G. C. Cupchik, BA, MA, PhD
M. Daneman, BA, MA, PhD
M. Dennis, BA, MA, PhD
K. K. Dion, BA, PhD
K. L. Dion, BA, PhD
S. Erb, BSc, MA, PhD
M. G. Evans, BSc, MScTech, MIA, PhD
A. Fleming, BS, PhD
P. J. Fletcher, BSc, DPhil
J. L. Freedman, BA, PhD
***(Director, Graduate Studies)***
J. J. Furedy, BA, MA, PhD
S. Goldberg, BA, MS, PhD
D. Goldstein, BA, MA, PhD
C. L. Grady, BA, MA, PhD
J. E. Grusec, BA, PhD
L. Hasher, AB, PhD
***(Chair)***
C. C. Helwig, BA, PhD
C. P. Herman, BA, PhD
R. Hetherington, BSc, MA, PhD
G. O. Ivy, BA, PhD
J. Jenkins, BA, MA, PhD, CPsych
S. Joordens, BA, MA, PhD
J. M. Kennedy, BSc, MSc, PhD
A. Kukla, AB, MA, PhD
G. P. Latham, BA, MS, PhD, FRSC
B. Levine, BA, MA, PhD
P. Lockwood, BA, MA, PhD
M. W. Lovett, BSc, MSc, PhD
C. M. MacLeod, BA, PhD
M. P. McAndrews, BSc, MA, PhD
R. J. McDonald, BSc, PhD
A. R. McIntosh, BSc, MSc, PhD
N. W. Milgram, BA, MA, PhD
G. Moraglia, BPhil, MA, MS, PhD
M. Moscovitch, BSc, MA, PhD, Dr. Max and Gianna Glassman Chair of Neuropsychology
P. M. Muter, BA, MA, PhD
J. N. Nobrega, BA, MA, PhD
K. O'Craven, SB, PhD
K. Oatley, BA, PhD
J. Peterson, BA, PhD
T. L. Petit, BS, MA, PhD
T. W. Picton, MSc, MD, PhD
P. Pliner, PhD
J. Polivy, BS, MA, PhD
C. X. Poulos, BS, MA, PhD
J. Pratt, BA, MA, PhD
M. R. Ralph, BSc, PhD
E. M. Reingold, PhD
J. Rovet, BSc, PhD
J. Ryan, BSc, PhD
J. A. Saint-Cyr, BA, MA, PhD
G. Schellenberg, BSc, PhD
B. B. Schiff, BSc, MSc, PhD
U. Schimmack, BA, MA, PhD
M. A. Schmuckler, PhD
B. A. Schneider, BA, PhD
A. B. Sekuler, BA, PhD
S. J. Shettleworth, BA, MA, PhD
M. C. Smith, BA, PhD
M. L. B. Smith, BSc, MSc, PhD
R. H. Smyth, BA, MSc, PhD
I. Spence, MA, PhD
D. T. Stuss, BA, BPh, MA, PhD
R. Tafarodi, BA, PhD
S. E. Trehub, BComm, MA, PhD
F. J. Vaccarino, BSc, MSc, PhD
A. M. Wall, AB, PhD
G. Winocur, BA, MA, PhD
J. S. Yeomans, BA, PhD
K. Zakzanis, BA, MA, PhD
P. D. Zelazo, PhD, Canada Research Chair
K. J. Zucker, BA, MA, PhD, CPsych

### Members Emeriti

A. J. Arrowood, BA, PhD
F. I. M. Craik, BSc, PhD, University Professor Emeritus
J. E. Foley, BA, PhD
J. A. Hogan, BA, PhD
L. Krames, BA, MA, PhD
R. O. Kroger, BA, MA, PhD
R. S. Lockhart, BA, MA, PhD
N. Mrosovsky, BA, PhD
B. B. Murdock, BA, PhD
A. Rapoport, BSc, MSc, PhD
E. Tulving, BA, PhD, University Professor Emeritus
G. C. Walters, BA, PhD
B. T. Wigdor, BA, PhD

### Associate Members

D. Bors, BA, MA, PhD

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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.

Students are admitted under the general regulations of the School of Graduate Studies. Successful candidates normally have at least an A- average (or first-class standing) in their last two undergraduate years, and the equivalent of six full courses in psychology including statistics and some laboratory experience. Other conditions for admission are outlined in a separate booklet, *Graduate Studies in Psychology,* available from the Coordinator of Graduate Studies. It is assumed that all students entering the master's program intend to continue into the Ph.D. program.

**Degree of Master of Arts**

The M.A. program in Psychology requires one academic year of graduate study. The program of study includes courses and individual research training leading to a thesis.

In the M.A. year, students must complete the following five half-course equivalents:

**1** PSY 1000H *Directed Studies* to prepare for the M.A. thesis research
**2** PSY 2001H *Design of Experiments I*, experimental design and statistics
**3** PSY 2005H *Strategies and Methods in Psychological Research*
**4** two half-courses from a list of core courses
**5** M.A. thesis

It is expected that after the M.A. year, students will proceed to the Ph.D. program. To be eligible for admission, adequate research performance and at least an A- average are normally required.

**Degree of Doctor of Philosophy**

The Ph.D. program in Psychology requires a 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.

It is expected that after the M.A. year, student will proceed to the Ph.D. program. To be eligible for admission, adequate research performance and at least an A- average are normally required.

All students must complete the following:

**1** PSY 2002H *Design of Experiments II* — usually taken in Ph.D. 1. Students who demonstrate adequate previous training may be exempted from this course.
**2** PSY 3000H *Research Project in Psychology* — usually taken in Ph.D. 1. This is a research project course supervised by a faculty member other than the student's Ph.D. supervisor. It is a one-session course spread over Ph.D. 1.
**3** PSY 3001H *Professional Psychology* — usually taken in Ph.D. 1.
**4** Four half-courses from a list of core courses and advanced seminars.
**5** Breadth requirement — during the M.A. and Ph.D. combined, two half-courses from core courses in two different areas not in the student's major area, each course requiring a major paper. Courses taken to fulfil the breadth requirement may be included in the four half-course requirement.
**6** Thesis proposal and oral exam PSY 4000H. This is a one-session course spread over the full year leading to a formal proposal for doctoral research and requiring an examination in the student's area of specialization.
**7** Ph.D. 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 Ph.D. program. Students admitted with an M.A. from another university will normally be required to take PSY 2001H *Design of Experiments I* and PSY 2005H *Strategies and Methods in Psychological Research,* in addition to the other Ph.D. requirements; however, exemptions may be granted by the graduate director of the Department of Psychology.

**Courses of Instruction**
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
PSY 2005H Strategies and Methods in Psychological Research

***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

***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,Y Research Project in Psychology
PSY 3001H Professional Psychology (CR/NCR)
PYS 3002H Teaching Practicum (CR/NCR)
PSY 4000H,Y° Specialization Study (CR/NCR)

PSY 4700H Psychology Testing and Assessment I
PSY 4701H Psychology Testing and Assessment II
PSY 4705H Psychological Assessment of Children

°Courses which may continue over a program. The course is graded when completed
(CR/NCR) Credit/No Credit

| | |
|---|---|
| PSY 4710H | Practicum in Testing and Assessment (CR/NCR) |
| PSY 4711H | Practicum in Applied Psychology (CR/NCR) |
| PSY 4720H,Y | Internship in Applied Psychology (CR/NCR) |

***Cross-Listed Courses***

| | |
|---|---|
| CSC 2535H | Computation in Neural Networks |
| JLP 2450H | Psycholinguistics/*P. A. Reich* |
| JNS 1000Y | Fundamentals of Neuroscience: Systems and Behaviour/*Staff* |
| JNS 1001H | Neuroanatomy of Mind/ *J. A. Saint-Cyr* |
| JPX 1001Y | Parenting: Multidisciplinary Perspectives/*C. Corter (coordinator)* |
| JPM 1005Y | Behavioural Pharmacology/ *E. M. Sellers* |
| ZOO 2215Y | Insect Behaviour/*G. K. Morris, T. M. Alloway* |

(CR/NCR) Credit/No Credit

# Public Health Sciences CHL

## Graduate Faculty

### Full Members

S. M. Abel, BSc, MA, PhD
K. R. Allison, BSc, BPHE, MASc, MSc, PhD
R. Allon, BA, MA, PhD
G. M. Anderson, BSc, MD, MSc, PhD
D. F. Andrews, BSc, MSc, PhD, Fellow ASA
H. M. Annis, BA, MD, PhD
M. J. Ashley, MSc, MD, DPH
E. M. Badley, BSc, MSc, DPhil, PhD
G. R. Baker, BA, MA, PhD
J. M. Barnsley, BSc, MSc, PhD
J. H. Beitchman, MD
S. R. Benatar, MBChB, FRCP
C. Bombardier, MA, MD, FRCP(C)
N. F. Boyd, MD, FRCP(C), The Lau Family Chair in Breast Cancer Research
I. H. Broder, MD
S. B. Bull, BMath, MMath, PhD
P. N. Byrne, BA, MA, PhD
L. Calzavara, BA, MA, PhD
M. L. Chipman, BSc, MA
D. Coburn, BA, MA, PhD
R. W. Cockerill, BA, MA, PhD
M. M. Cohen, BSc, MHSc, MSc, MD, FRCP(C)
R. J. Cook, AB, MA, MPA, JD, LLM, JSD
M. Corey, BA, MSc, PhD
P. N. J. Corey, BSc, MA, PhD ***(Associate Chair)***
P. C. Coyte, BA, MA, PhD
A. Daar, DPhil, FRCP(Lond), FRCS, FRCS(C)
G. A. Darlington, PhD
R. B. Deber, SB, SM, PhD
A. S. Detsky, BS, MD, PhD
B. M. Dickens, LLB, LLM, PhD, LLD, Dr. William M. Scholl Chair in Health Law and Policy
P. A. Donnelly, BA, MS, PhD
J. M. Eakin, BA, MA, PhD
M. R. Eastwood, MBChB, MD, MRCPschy, FRCP(C), LMCC
M. D. Escobar, BS, PhD
G. E. Eyssen, BSc, MSc, PhD
W. Feldman, BA, MD, FRCP(C)
B. Ferguson, BA, MA, PhD
G. R. Fernie, BSc, PhD, PEng, CCE
R. G. Ferrence, BA, MA, PhD
L. E. Ferris, BA, MA, PhD
B. J. Fox, AB, PhD
J. W. Frank, BSc, MD, CCFP, MSc, FRCP(C)
R. Glazier, MPH, MD
V. Goel, MD, CM, MSc, SM, FRCP(C)
M. S. Goodstadt, BA, PhD
M. E. Hannah, BSc, MS, MDCM
G. Hawker, BSc, MD, MSc, FRCP(C)
R. J. Heslegrave, PhD
E. D. Hodnett, BSN, MScN, PhD, Reisman Chair in Perinatal Nursing Research
S. Hogg-Johnson, BSc, BMath, MMath, PhD
D. L. Holness, MHSc, MD
S. Horton, BA, MA, PhD
J. J. Hsieh, BSc, MA, PhD
M. Jain, BSc, MSc, PhD
I. V. Kalnins, BA, MA, PhD
G. A. Kerr, BPHE, MA, PhD
B. Kidd, BA, AM, MA, PhD
N. S. Klar, MMath, MSc, PhD
K. Knight, BSc, MS, PhD
N. Kreiger, BA, MPH, MPhil, PhD
P. Leatt, BScN, MHSA, PhD, Liberty Health Chair
L. M. Leith, BA, MA, PhD
L. Lemieux-Charles, BScN, MScN, PhD
H. Lenskyj, BA, MA, PhD
H. A. Llewellyn-Thomas, BScN, MScN, PhD
A. G. Logan, MD, FRCP(C)
W. Lou, PhD
R. L. Love, BA, MA, PhD
H. Maclean, BSc, MSc, DipNutr, EdD
R. Mann, BA, MASc, PhD
L. D. Marrett, BMath, PhD
P. A. McDonough, BSc, BScN, MSc, PhD
N. H. McKee, MD, FRCS(C)
J. R. McLaughlin, BSc, MSc, PhD
T. M. McLellan, BSc, BA, BEd, MA, PhD
P. E. Millson, BSc, MHSc, MD, FRCP(C)
S. Minkin, BSc, MSc, PhD
C. A. Mustard, AB, ScD
T. Myers, BA, MSc, MSW, PhD
S. Narod, BSc, MD, FRCP(C)
C. D. Naylor, MD, DPhil, FRCP(C)
A. M. Noyek, MD, FRCSC
A. Ohlsson, MSc, MD, FRCP(C)
L. D. Pengelly, BASc, MSc, PhD
G. H. Pink, BCom, MHSA, PhD
M. J. Plyley, BSc, PhD
B. D. Poland, BA, MA, PhD
H. Polatajko, BOT, MEd, PhD, OT(C)
J. T. Purdham, BSc, PhD
J. Reading, BPE, MSc, PhD
D. A. Redelmeier, MS, MD, FRCP(C), De Souza Chair in Trauma Research
J. Rehm, PhD
N. M. Reid, BMath, MSc, PhD, FRSC
R. M. Renwick, BA, Dip(P&OT), PhD
A. Robertson, BSc, DPH, PhD
T. E. Rohan, MB, MSc, PhD, FRACP
I. Rootman, BA, MPh, PhD
C. J. Rosenthal, BA, MA, PhD
W. W. Rosser, MD
B. R. Rush, PhD
I. Sakinofsky, MB, CB, FRCP(C)
A. M. Sass-Kortsak, BSc, MHSc, PhD

P. L. Seyfried, MSA, PhD
H. Shannon, BA, MSC, PhD
P. N. Shek, BSc, MSc, PhD
F. S. Silverman, BSc, MSc, PhD
E. W. Single, BA, PhD
H. A. Skinner, BA, MA, PhD
***(Chair)***
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D. L. Streiner, BA, MS, PhD, CPsych
V. Tarasuk, BA, BEd, BASc, MSc, PhD
S. Tarlo, MBBS, MRCP, FRCP(C)
L. J. Tepperman, BA, MA, PhD
S. G. Thomas, BSc, MSc, PhD
T. To, BSc, MS, PhD
D. Tritchler, BA, MS, ScD
M. L. S. Vachon, RN, PhD
R. Volpe, BA, MA, PhD
D. A. Wasylenki, BA, MSc, MD, FRCP(C)
B. Wheaton, BA, MA, PhD
A. R. Willan, BA, BEd, MSc, PhD
A. P. M. Williams, PhD
J. I. Williams, BA, MA, PhD
G. R. Wright, BASc, MASc, PhD
J. G. Wright, MD, MPH, RB Salter Chair of Paediatric Surgical Research

**Member Emeriti**
R. F. Badgley, MA, PhD
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J. E. F. Hastings, MD, DPH, FRCP(C)
D. Hewitt, MA, DipStat
M. J. Kelner, BA, MA, PhD
V. W. Marshall, BA, MA, PhD
A. B. Miller, BA, MBBChir, FPCP(Lond), FRCP(C), FFPHM(UK)
C. P. Shah, MBBS, DCH, MRCP, FRCP
R. J. Shephard, MBBS, MD, BSc, PhD, DPE, FACSM, FFISM
E. Vayda, MD, FRCP(C), FACP
B. T. Wigdor, BA, PhD

**Associate Members**
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F. Ashbury, BA, MA, PhD
P. Austin, BSc, MSc, MSc, PhD
M. Bacchus, MD
P. Ballantyne, BA, MA, PhD
A. Barr, BSc, MSc, PhD
M. Barrera, MA, PhD
A. Baskinski, BMath, MSc, PhD, MD
H. P. Batty, MD, CCFP, MEd, FCFP
D. M. Behrens, HBA, MS, PhD
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A. Bezjak, BMedSc, MDCM, MSc, FRCP(C)
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S. Bondy, PhD
A. Bortolus
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J. M. Brewster, BA, MA, PhD
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M. E. Campbell, BSc, MES, PhD
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E. Holowaty, MD, MSc, FRCP(C)
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J. Knight, PhD
M. Koehoorn, BSc, PhD
M. Koo, BSc, MSc, PhD
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Candidates are admitted to the multidisciplinary field of community health under the general regulations of the School of Graduate Studies. Applicants are strongly advised to have some background in statistics and quantitative methods, as well as in a social science discipline. In addition, field and employment experience are taken into consideration, especially for the M.H.Sc. program. More specific program details, requirements, course descriptions, and a supplementary application are available from the Graduate Department of Public Health Sciences. A complete description of all programs, degree requirements, courses, faculty research interests, and policies is available on the departmental Web site www.phs.utoronto.ca.

Applications should be submitted by February 1.

**Degree of Master of Health Science**

In the Master of Health Science program students may specialize in one of five areas:
Community Health and Epidemiology
Community Nutrition
Family Medicine
Health Promotion
Occupational and Environmental Health

All students in the M.H.Sc. program will learn the basic theoretical and methodological approaches used in community health, will share a common understanding of the field, will be able to pursue areas of specific personal interest, and will acquire some field experience (practicum) in their chosen area. Course sequences have been planned to include a set of common core courses, to introduce basic theory and methods early, to allow as much elective time as possible, and to permit the application of theory to practice in a field setting. A thesis is not required, but students may be required to undertake major papers and independent projects.

***Program Requirements***

**1** An approved program of study includes the equivalent of 10 full courses, of which 0.5 course equivalent is a core subject and at least 1.0 course equivalent is a field practicum.
**2** If registered on a full-time basis in the program and, with the exception of the session in which a practicum is undertaken, a student should take two to three full-course equivalents in any one session.
**3** Depending on the area of specialization, full-time students require between 16 and 22 months to complete an M.H.Sc. program, including time spent in appropriate field settings.
**4** Specific program requirements and course sequences and options vary by area of specialization and are fully explained in the Web site.
**5** A part-time study option is available which allows six years for completion of the program. Contact the Graduate Department of Public Health Sciences for further information.

**Degree of Master of Science**

The M.Sc. degree program is undertaken by students interested in research and academic careers in public health sciences. The specializations offered include:
Biostatistics
Epidemiology
Health and Behavioral Sciences
Occupational and Environmental Health
Social Science and Health (formerly Behavioural Science)

Each specialization has specific course requirements and may have other requirements in addition to the common features listed below.

***Program Requirements***

**1** Completion of all degree requirements within five years.
**2** The writing of a thesis under the supervision of a thesis committee (supervisor and at least one additional faculty member) and its defence before an examination committee appointed by the Graduate Department of Public Health Sciences.

A course-only option is available in Biostatistics.
**3** The course load varies by specialization and the student's knowledge of the field of specialization and is fully explained on the Web site.
**4** Effective September 1995, a part-time M.Sc. program is available. Submission of an approved program plan, with annual updates, is required.

**Degree of Doctor of Philosophy**

The Ph.D. degree program is undertaken by students interested in research and academic careers in community health. The specializations offered include:
Biostatistics
Epidemiology
Social Science and Health (formerly Behavioural Science)

Applicants to the Ph.D. program normally will be expected to have completed a M.A. or M.Sc.

(with a thesis) in a related field and to provide satisfactory references pertaining to their academic and research abilities.

Upon the recommendation of the appropriate Public Health Sciences committees, outstanding students with a non-thesis master's degree may be admitted to the Ph.D. program if they have appropriate background preparation and research experience or publications which can be considered equivalent to a master's thesis.

In exceptional circumstances, applicants would qualify for direct entry into the doctoral program with a bachelor's or equivalent degree and subject to the review and approval by the appropriate Public Health Sciences committees.

Students transferring from the M.Sc. to the Ph.D. program are normally required to complete the sum of the normal master's course requirements unless otherwise specified by the program.

***Program Requirements for Full-Time Ph.D.***

Each specialization has specific requirements in addition to the common features listed below:

**1** Full-time registration (winter and summer sessions) for the first four years of the doctoral program.

**2** Completion of all degree requirements within six years from first registration in the program. Thereafter, candidates may apply for a maximum of two extensions.

**3** The writing of a comprehensive examination in the major area of specialization.

**4** The designation of a minor area of specialization, depending on sub-specialization.

**5** The successful completion of formal examinations and other assessments at specified points within the program to ensure continuation in the program.

**6** Satisfactory evidence of proficiency in statistics or research methods or the inclusion of at least one such course in the program.

**7** The writing of a Ph.D. thesis under the supervision of an approved thesis committee (supervisor plus two additional faculty members).

**8** The oral defence of the thesis before an examination committee appointed by the School of Graduate Studies.

**9** The course requirements vary by specialization and are related to the student's knowledge of the field.

Consult the Web site.

***Program Requirements for Flexible-Time Ph.D.***

With the approval of the graduate chair, some applicants may be admitted to a flexible-time Ph.D. program. This program will benefit mature students with career and/or familial obligations. The degree requirements for the flexible-time program are identical to those listed above for the full-time Ph.D. program; however, 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. A plan of study and research activities will be negotiated at initial registration, to be reviewed and updated annually.

**Collaborative Programs**

Students in the M.H.Sc., M.Sc., and Ph.D. programs in the Graduate Department of Public Health Sciences may also participate in a range of collaborative programs. For more details see the separate listings in this calendar:

Addiction Studies
Aging and the Life Course
Bioethics
Cardiovascular Sciences
Environment and Health (*see* Environmental Studies)
Toxicology (*see* Environmental Studies)
Women's Studies

**Courses of Instruction**

Not all courses are offered each year. Please check the timetable on the Web site www.phs.utoronto.ca for current course offerings.

***Core Courses***

CHL 5004H Introduction to Public Health Sciences/*K. Young, K. Domnick*

***Biostatistics and Demography***

CHL 5201H Introductory Biostatistics for Students in Biological Sciences I/ *P. N. Corey, M. Escobar*

CHL 5202H Introductory Biostatistics for Students in Biological Sciences II/ *P. N. Corey*

CHL 5203H Survey Methods in Health Sciences I/*L. Calzavara*

CHL 5204H Survey Methods in Health Sciences II/*E. Adlaf, S. Bondy*

CHL 5205H Demography and Vital Statistics I/ *J. Hsieh*

CHL 5206H Demography and Vital Statistics II/*J. Hsieh*

CHL 5207Y° Laboratory in Statistical Design and Analysis/*Staff*

CHL 5208Y° Advanced Laboratory in Statistical Design and Analysis/*Staff*

CHL 5209H Survival Analysis I/*J. Hsieh*

°Courses which may continue over a program. The course is graded when completed.

CHL 5210H Statistical Analysis of Qualitative Data/*S. B. Bull, G. A. Darlington*
CHL 5211H Demographic Analysis/*J. Hsieh*
CHL 5220H Community Health Appraisal Methods I/*J. Payne, A. Chiarelli*
CHL 5221H Community Health Appraisal Methods II/*K. Allison*
CHL 5222H Longitudinal Data Analysis/ *J. Stafford*
CHL 5223H Applied Bayesian Methods/ *M. Escobar*
CHL 5250H Special Topics in Biostatistics/ *Staff*
CHL 5251H Survival Analysis II/*J. Hsieh*

***Community Nutrition***
Courses offered by the Department of Nutritional Sciences

NFS 1201H Public Health Nutrition/*V. Tarasuk*
NFS 1204Y° Master's Seminars in Nutritional Sciences (CR/NCR)/*Staff*
NFS 1208H Field Observation and Nutrition Program Laboratory I/*A. Fox*
NFS 1209H Field Observation and Nutrition Program Laboratory II/*Staff*
NFS 1211H Community Nutrition/*K. Slater*
NFS 1216H Selected Topics in Nutrition/*Staff*
NFS 1218H Recent Advances in Nutritional Sciences I/*M. Archer*
NFS 1219H Recent Advances in Nutritional Sciences II/*S. Cunnane*
NFS 1220H Clinical Nutrition/*D. Jenkins, P. Pencharz*
NFS 1221H Nutrition Programs and Strategies/*A. Fox*
NFS 1484H Advanced Nutrition/*C. Greenwood*

***Epidemiology***
CHL 5401H Epidemiologic Methods I/ *E. Badley*
CHL 5402H Epidemiologic Methods II/ *G. Eyssen, L. Marrett*
CHL 5403H Epidemiology of Non-Communicable Diseases/*Staff*
CHL 5404H Research Methods in Epidemiology/*M. Chipman*
CHL 5405H Assessment of Community Health Needs/*D. Reynolds*
CHL 5406H Prospective Studies and Survival Analysis/*W. Lou, P. Corey*
CHL 5407H Categorical Data Analysis for Epidemiologic Studies/*N. Klar*
CHL 5408H Laboratory in Epidemiologic Protocol Design/*N. Kreiger, J. Payne*

°Courses which may continue over a program. The course is graded when completed.
(CR/NCR) Credit/No Credit

CHL 5409H Cancer Epidemiology/ *J. McLaughlin, E. Holowaty*
CHL 5410H Occupational Epidemiology/ *R. House*
CHL 5411H International Health/*R. Glazier*
CHL 5412H Field Investigation of Health Problems/*M. E. Millson*
CHL 5413H Public Health Sanitation/*Staff*
CHL 5414H Additional Topics in Epidemiology of Non-Communicable Diseases/*Staff*
CHL 5415H Epidemiology of Communicable Diseases/*L. Yuan*
CHL 5416H Environmental Epidemiology/ *L. Smith*
CHL 5417H Tobacco and Health: From Cells to Society/*R. G. Ferrence, J. Cohen*
CHL 5418H Scientific Overview in Epidemiology/*M. Chipman*
CHL 5419H Empirical Perspectives on Social Organization and Health/ *C. Mustard*
CHL 5450H Special Topics in Epidemiology/ *Staff*

***Family Medicine***
CHL 5601H Evidence-Based Family Medicine/ *W. W. Rosser*
CHL 5602H Working with Families in Family Medicine/*H. P. Batty, V. Poon*
CHL 5603Y Social, Political, and Scientific Issues in Family Medicine/*H. P. Batty*
CHL 5604H Human Development Issues for Family Medicine/*Staff*
CHL 5605H Research Issues in Family Medicine/Primary Care/*W. Rosser*
CHL 5606H Research in Family Medicine/ Primary Care Methodological Applications/*W. Rosser*
CHL 5607H Teaching and Learning by the Health Professions: Principles and Theories/*H. P. Batty*
CHL 5608H Teaching and Learning by the Health Professions: Practical Issues and Approaches/*H.P. Batty*
CHL 5609H Continuing Education in the Health Professions/*D. Davis*

***Health Promotion***
CHL 5801H Health Promotion/*B. Poland*
CHL 5802H Planning in Health Promotion and Population Health/*T. Myers*
CHL 5803H Health Promotion Strategies/ *M. Goodstadt*
CHL 5804H Health Behaviour Change/*H. Skinner, C. Breslin, J. Brewster*

CHL 5805H Critical Issues in Health Promotion Practice/*I. V. Kalnins, P. Coleridge, C. Chalin*
CHL 5806H Health Promotion Practice Field Inquiry/*I. V. Kalnins*
CHL 5807H Health Communications/*L. Hershfield, M. E. MacNeill*

***Occupational and Environmental Health***
CHL 5902H Advanced Occupational Hygiene/*H. R. Hosein*
CHL 5903H Environmental Health/*H. R. Hosein*
CHL 5904H Perspectives in Occupational Health and Safety—Legal and Social Context/*L. Holness*
CHL 5905H Advanced Clinical Studies in Occupational Medicine/*D. L. Holness, R. House*
CHL 5906H Organization and Management of Occupational Health Services/*Staff*
CHL 5907H Radiological Health/*J. T. Purdham*
CHL 5910H Occupational Hygiene I/*A. M. Sass-Kortsak*
CHL 5911H Occupational and Environmental Hygiene II/*J. T. Purdham*
CHL 5912H Industrial Toxicology/*G. Kalabis*
CHL 5914H Physical Agents I—Noise/*A. M. Sass-Kortsak*
CHL 5915H Control of Occupational Hazards/*A. M. Sass-Kortsak*
CHL 5916H Environmental Health Policy/*M. Campbell*
CHL 5917H Safety Management and Accident Prevention/*J. McGuire*
CHL 5950H Special Topics in Occupational and Environmental Health/*Staff*

***Social Science and Health***
AGE 2000H Principles of Gerontology/*P. Ballantyne*
AGE 3000H Advanced Research Seminar in Aging and the Life Course/*S. Katz*
CHL 5101H Social Psychology of Health/*J. M. Eakin*
CHL 5102H Social and Political Forces in Health/*Staff*
CHL 5103H Sociology of Health in Canada/*Staff*
CHL 5104H Health Psychology/*P. Ritvo*
CHL 5105H Social Determinants of Health/*A. Robertson*
CHL 5106H Health and Illness Behaviour in Children and Adolescents/*I. V. Kalnins*
CHL 5108H Work and Well-Being/*D. Coburn*
CHL 5109H Gender and Health/*R. Love, Staff*
CHL 5110H Theory and Practice of Program Evaluation/*L. E. Ferris*
CHL 5111H Qualitative Research Methods/*M. Disman*
CHL 5112H Community Development in Health/*B. D. Poland*
CHL 5113H Health and Culture: Meeting the Needs of a Multicultural Society/*M. Disman*
CHL 5114H Social Science Perspectives on Mental Health/*R. Love*
CHL 5115H Topics in Qualitative Research Methods/*J. M. Eakin*
CHL 5116H Public Policies to Improve Health/*S. Horton, T. Sullivan*
CHL 5117H A Global Perspective on the Health of Women and Children/*C. G. Chalin*
CHL 5118H International Health, Human Rights, and Peace-Building/*C. G. Chalin*
CHL 5119H Social and Political Perspectives on Drugs and Addiction/*B. Fischer*
CHL 5150H Social Science Research/*Staff*

***Practica and Related Courses***
CHL 5620Y Medical Educator Practicum in Family Community Medicine (CR/NCR)
CHL 5621H Extension to Medical Educator Practicum in Family and Community Medicine (CR/NCR)
CHL 6010Y Required M.H.Sc. Practicum (CR/NCR)
CHL 6011H Required Practicum Extension (CR/NCR)
CHL 6020Y Optional M.H.Sc. Practicum (CR/NCR)
CHL 6021H Optional Practicum Extension (CR/NCR)
CHL 6022Y Long Extension to Optional Practicum (CR/NCR)

***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

(CR/NCR) Credit/No Credit

## *Collaborative Program Courses*

*Aging and the Life Course*

AGE 2000H Principles of Aging/*P. Ballantyne*

AGE 3000H Advanced Research Seminar in Aging and the Life Course/*S. Katz*

*Addiction Studies*

PAS 3700H Multidisciplinary Aspects of Addiction Studies/*M. J. Ashley, Staff*

PAS 3701H Advanced Research Issues in Addictions/*R. Mann*

# Rehabilitation Science REH

## Full Members

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***(Chair)***
J. I. Williams, BA, MA, PhD
K. K. Yoshida, BPhE, BSc(PT), MSc, PhD
N. L. Young, BSc(PT), MSc, PhD

## Associate Members

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D. E. Beaton, BSc, MSc, PhD
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T. Chau, BASc, MASc, PhD, PEng
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The Graduate Department of Rehabilitation Science provides opportunities for the systematic study of the physical and psychosocial dimensions of human function throughout the lifespan of individuals with impairments, disabilities, and/or handicaps. The M.Sc. in Rehabilitation Science is a master's program preparing graduates for research and should not be confused with a graduate entry level program leading to professional practice. The program includes a core course in rehabilitation science research. Eleven additional courses, three in the field of physical rehabilitation and four in the field of psychosocial rehabilitation, are also offered. The program is designed to maximize the exceptional resources available within the University of Toronto health science complex. The program enhances the current research activity in rehabilitation science and prepares students for further graduate study.

### Enquiries

Enquiries should be made to the Administrative Assistant at the above address.

### Degree of Master of Science

The Graduate Department of Rehabilitation Science offers programs leading to the M.Sc. degree. Students of the Department may also participate in the following collaborative programs: Aging and the Life Course, Biomaterials and Biomedical Engineering, Cardiovascular Sciences, and Neuroscience. For further information about each collaborative program, consult the separate entries in this calendar.

#### *Admission Requirements*

Applicants to the M.Sc. program must have graduated with a four-year University of Toronto B.Sc. 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 standards).

***Program Requirements***

The M.Sc. program in Rehabilitation Science includes both course work and a thesis. Minimum requirements include REH 1100H *Theory and Research in Rehabilitation Science*, REH 2001Y *Rehabilitation Presentations and Proceedings*, one half-course in research methodology appropriate to thesis design, and at least one additional half-course related to the field of study. Candidates must submit a thesis on their research and be examined by the Thesis Committee.

The program requires a minimum of 12 months of full-time study. Candidates should be aware that the completion of the thesis may take longer. Exceptional students may be considered for enrolment in a part-time program. There will be no residency requirement for part-time students. They must complete the program within five years; however, all course work must be completed within the first two years of the program. Part-time students must agree to an annual Learning Contract and must submit a Program Map (planned with his/her supervisor) to the Department. Part-time students should be aware that it is the student's responsibility to modify his/her schedule to accommodate required course work since course times are not flexible.

**Courses of Instruction**

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/*M. C. Verrier, B. H. Kirsh*

REH 1110H Rehabilitation Services Research and Policy/*S. Rappolt*

REH 1120H Research Methods for Rehabilitation Science/*S. B. Jaglal*

REH 1510H Disordered and Restorative Motor Control/*W. McIlroy, M. C. Verrier*

REH 1520H Physiological Factors Constraining Rehabilitation of the Elderly/*K. Lundon, S. G. Thomas*

REH 1540H Research Topics in Assistive Technology/*D. T. Reid, M. Milner, G. R. Fernie, S. Naumann*

REH 1550H Advanced Study of the Musculoskeletal Tissues for the Rehabilitation Specialist/*K. Lundon*

REH 1610H Environmental Theory in Rehabilitation/*K. A. Boschen*

REH 1620H Methodological Issues in Research on Aging and Health/*A. Colantonio, C. Cott*

REH 1630H Psychosocial Adjustment and Quality of Life Issues/*R. M. Renwick, J. F. Friedland*

REH 1640H Sociology of Disability/*K. K. Yoshida*

REH 2000H Individual Reading and Research Course/*D. Brooks (Coordinator)*

REH 2001Y Rehabilitation Presentations and Proceedings (Credit/No Credit/*S G. Thomas, J. Jutai*

# Religion RLG

## Graduate Faculty

### Full Members

J. Abray, BA, MA, MPh, PhD
P. D. Airhart, MA, PhD
J. Brownlee, BA, MA, MPh
J. M. Bryant, BA, MA, PhD
J. E. Chamberlin, BA, PhD, FRSC
I. Cochelin, BSc, BA, MA, DEA, PhD
J. H. Corbett, BA, MA, PhD
H. Cunningham, BA, MA, PhD
M. Desjardins, BA, MA, PhD
J. J. DiCenso, PhD
T. Donaldson, BSc, MRel, ThM, ThD
A. Dooley, BA, MA, PhD
K. Eisenbichler, BA, MA, PhD
E. W.-C. Fong, BA, MA, PhD
H. Fox, BA, BSc, MA, MS, PhD
G. Frame, MA, PhD
D. R. Frayne, MA, PhD
R. Gibbs, BA, MA, PhD
G. S. Gillison, BA, PhD
J. Goering, BA, MAR, MA, MSL, PhD
P. W. Gooch, BA, MA, PhD
K. H. Green, BA, MA, PhD
R. W. L. Guisso, BA, DPhil
S. Günther, PhD
M. Hewitt, BA, MA, PhD
C. Kanaganayakam, BA, PhD
J. R. Kippen, BA, PhD
J. S. Kloppenborg, BA, MA, PhD
L. M. Lange, AB, MA, PhD
R. J. Leprohon, BA, PhD
L. Loeb, BA, MMSt, PhD
R. J. Lynn, BA, MA, PhD
J. C. Magee, BA, MA, PhD
S. Mason, BA, MA, PhD
M. McGowan, BA, MA, PhD
C. T. McIntire, BA, MA, MDiv, PhD
***(Associate Director)***
N. McMullin, BA, STB, MTh, PhD
M. D. Meyerson, BA, MA, PhD
A. Mullin, BA, PhD
L. Munk, BA, MA, PhD
H. Murray, BA, MA, PhD
L. S. Northrup, BA, MA, PhD
D. Novak, AB, MHL, rabbinical diploma, PhD
R. O'Toole, BA, MA, PhD
L. C. D. C. Priestley, BA, AM, MA, MPhil, PhD
J. A. Reilly, BA, MA, PhD
S. Sandahl, MA, DES, PhD
R. Sarabia, BA, MA, PhD
L. E. Schmidt, BA, MA, PhD
V. T. S. Shen, BA, MA, PhD, Lee Chair
G. Sheppard, BS, BA, PhD
A. Sheps, BA, MA, PhD
K. Sieciechowicz, BA, MA, PhD
G. Silano, BA, BEd, LLB, MA, PhD
R. E. Sinkewicz, BA, AM, MDiv, DPhil
I. L. Stefanovic, BA, MA, PhD
B. C. Stock, AB, PhD
M. E. Subtelny, BA, PhD
R. S. Sweetman, BA, MA, MSL, PhD
M. A. Szonyi, BA, MA, DPhil
J. G. Taylor, BA, MTh, MPhil, PhD
N. Terpstra, BA, MA, PhD
P. A. Thompson, BA, MA, PhD
B. J. Todd, BA, MA, PhD
D. H. Turner, BA, MA, PhD
L. E. Vaage, BA, MDiv, PhD
J. M. Vertin, BA, STB, STL, MA, PhD
B. D. Walfish, BSc, MA, PhD, DipLib

### Members Emeriti

R. L. Beck, BA, MA, PhD
W. J. Callahan, AB, MA, PhD
A. T. Davies, PhD
R. C. Hutchinson, BSc, BD, MA, ThD
M. Israel, BA, MA, PhD
M. A. Klein, BS, MA, PhD
E. M. Leonard, BA, MA, PhD
M. E. Marmura, MA, PhD, FRSC
G. Nicholson, BA, BD, MA, PhD
J. T. O'Connell, BA, MA, PhD
W. G. Oxtoby, BA, MA, PhD
J. B. Peckham, BA, PhL, PhD
A. Pietersma, BA, BD, PhD
G. P. Richardson, BAr, BD, PhD
J. H. Simpson, BA, BD, MTh, PhD
N. K. Wagle, BA, MA, PhD
D. B. Waterhouse, BA, MA, LRAM, FRSC

### Associate Members

L. Cormie, BA, MA, PhD
A. Dhand, BA, MA, PhD
J. A. Harris, BA, MA, PhD
C. Hirschkind, BA, MA, PhD
A. Khan, BSc, BD, MA, PhD
P. Klassen, BA, MA, MPhil, PhD
S. Kumar, BSc, MSc, MA, PhD
J. Marshall, BA, MA, PhD
D. Merkur, BA, MA, PhD
B. G. Pronger, BA, MSc, PhD
S. Scharper, BA, MA, PhD
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The Centre for the Study of Religion, the graduate unit of the Department for the Study of Religion, offers programs for the study of religion at both the master's and doctoral levels and facilitates research and publication on religion. The Centre conceives the study of religion in the broadest terms. It 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.

Students may specialize in (1) the study of particular religious traditions, including most religious traditions throughout the world; or (2) the comparative, thematic, or theoretical study of religion. To undertake the study of religion in its complexity, the Centre embraces as many methods and approaches as prove useful. Programs of study are constructed individually to fit the specific needs and interests of each student. At the doctoral level, 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.

## Admission

The following materials should be sent directly to the Centre: the admissions application form; all transcripts; a statement of aims (200 words) for graduate study, which for doctoral applicants should indicate a possible area of thesis work; three confidential letters of recommendation; and for doctoral applicants a brief academic résumé.

## Degree of Master of Arts

### *Admission Requirements*

The normal prerequisite is a four-year bachelor's degree with specialization at the undergraduate level in a program of religious or cognate studies broadly equivalent to the University of Toronto's B.A. 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*

The M.A. program has two components.

**1** *Courses.* Four full courses, or the equivalent, are required, including RLG 2000Y *Major Research Paper*. An extended program requires additional courses, some of which may be at the undergraduate level.

**2** *Language(s).* Reading knowledge of at least one language, in addition to English, selected from languages of modern scholarship and/or necessary source languages. Decisions about language requirements and how they shall be satisfied in each case are made by the Associate Director.

## Degree of Doctor of Philosophy

### *Admission Requirements*

For admission to the doctoral program, students normally must have completed all requirements of the Centre's M.A. program, or of a comparable program of another university, with an average of at least A- in course work and with no individual course falling below B.

### *Program Requirements*

Entry into a new program is ordinarily permitted only in September. Upon entry into the Centre, students will be assigned an advisory committee to assist them in structuring their program. Students are required to spend at least two winter sessions on campus in full-time study, normally those of the first two academic years of a program. An ideally prepared student (i.e., one who has a good working knowledge of the relevant languages and is not required to take additional courses) may expect to complete the degree in four years of full-time study. The Ph.D. program has five components.

**1** *Courses.* Students must complete a minimum of three full courses or the equivalent. These shall include RLG 1000Y *Method and Theory in the Study of Religion* and at least one half-course in an area other than that designated as the area of specialization. Students may be required to take more than three courses if their preparation is considered deficient in a subject required for their program.

**2** *Languages.* Reading knowledge is required 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. Preparation for at least one of these languages usually would have been completed prior to entry into the program. Decisions about language requirements and how they shall be satisfied in each case are made by the student's advisory committee in consultation with the Associate Director. The language requirements must be fulfilled before writing the general examinations.

**3** *Thesis Proposal.* Upon completion of the course work the candidate must submit a thesis proposal for approval by the candidate's supervisory committee.

**4** *General Examinations.* The candidate's supervisory committee will set general examinations to assess the candidate's readiness for thesis research. Written examinations will cover (a) the candidate's area of specialization, and (b) at least one important cognate area. An oral examination on all materials assigned for the general examinations will follow. The general examinations are normally completed during the second year or by December in the third year of doctoral study.

**5** *Thesis.* Upon successful completion of the general examinations, candidates will proceed to research and write a doctoral thesis which must be defended successfully at an oral examination. The writing of the thesis should not require more than two years.

**Collaborative Programs**

The Centre participates in the following collaborative programs:

Bioethics
Ethnic and Pluralism Studies
International Relations
South Asian Studies
Women's Studies

Descriptions of these programs appear under their own headings in this calendar.

**Courses of Instruction**

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/*Staff*
RLG 1500Y Directed Reading/*Staff*
RLG 1501H Directed Reading/*Staff*
RLG 2000Y Major Research Paper/*Staff*
RLG 2007H Ethics, Society, and Technology/*L. E. Schmidt*
RLG 2011H Evil and Faith: Studies in Judaeo-Christian Theodicy/*P. W. Gooch*
RLG 2012Y Natural Law in Judaism and Christianity/*D. Novak*
RLG 2018H Religion and Bioethics/*D. Novak*
RLG 2019H Religion and the Environment/*S. Scharper*
RLG 2021H Historiography of Religions/*C.T. McIntire*
RLG 2025H Critical Social Theory and Feminist Religious Thought/*M. Hewitt*
RLG 2026H Modernity, Postmodernity, and the Future of Religion/*M. Hewitt*
RLG 2035H Religion and Material Culture in the Ancient World/*G. P. Richardson*
RLG 2037H Religion and Healing/*P. Klassen*
RLG 2038H Body and Transcendence/*B. Pronger*
RLG 2041Y Biblical Interpretation: Its History and Theory/*Staff*
RLG 2043Y Studies in Jewish and Christian Liturgy to the Seventh Century/*J. H. Corbett*
RLG 2073H Indigenous Peoples and Modern European Thought/*L. M. Lange*
RLG 2087Y Comparative Religion in Aboriginal Perspective/*D. H. Turner*
RLG 2088H The Birth of Anthropology and the Study of Primitive Religion/*G. Gillison*
RLG 2089H Religion, Theology and Anthropology/*G. Gillison*
RLG 2090H Topics in Psychology of Religion/*J. J. DiCenso*
RLG 3102H Problems in Northwest Semitic Religions/*J. B. Peckham*
RLG 3103H Problems in Israelite Religion/*J. B. Peckham*
RLG 3142H The Book of Genesis/*G. Taylor*
RLG 3143H Hebraica/*G. Taylor*
RLG 3205H Early Christian Self-Definition and the Separation from Judaism/*T . Donaldson*
RLG 3220H Topics in Early Christian History/*P. Richardson*
RLG 3224Y Early Eastern Christianity/*J. H. Corbett*
RLG 3225Y Early Churches in Cross-Cultural Perspective/*J. Corbett*
RLG 3237H Religion and Social Reform in Canada/*P. D. Airhart*
RLG 3232H Sacred Space in the Christian Tradition/*J. Harris*
RLG 3238H Latin American Liberation Theology/*L. Cormie*
RLG 3240H Studies in Early Christian Literature/*P. Richardson*

RLG 3243H The Synoptic Problem/*J. S. Kloppenborg*
RLG 3244H The Sayings Gospel Q: Text and Social History/*J. S. Kloppenborg*
RLG 3248H Gospel of John and the Jesus Traditions/*J. Kloppenborg*
RLG 3255H Aspects of Matthean Interpretation/*T. Donaldson*
RLG 3260H Twentieth-Century Political Philosophy within Christianity/*L. E. Schmidt*
RLG 3261H Augustine, Aquinas, Lonergan/*M. Vertin*
RLG 3265H Christian Spirituality and Modern Culture/*P. Airhart*
RLG 3424H Religion and Society in Classical Japan/*N. McMullin*
RLG 3444H Buddhism and Society in East Asia/*N. McMullin*
RLG 3611H Topics in Rabbinic Midrash/*H. Fox*
RLG 3621H Modern Jewish Thought/*K. H. Green*
RLG 3622H Maimonides and His Modern Interpreters/*K. H. Green*
RLG 3623H Philosophy, Theology, and Politics: The Thought of Leo Strauss/*K. Green*
RLG 3624Y The Jurisprudence of Maimonides/*D. Novak*
RLG 3631H The Community of the Dead Sea Scrolls/*J. H. Corbett*
RLG 3641H Interpretations of Jewish Tradition/*H. Fox*
RLG 3645Y The Jewish Legal Tradition/*H. Fox*
RLG 3647H Early Rabbinic Judaism/*H. Fox*
RLG 3651H Hellenistic-Jewish Thought/*H. Fox*
RLG 3655H Readings in Jewish Literature (200 BCE - 200 CE)/ *T. Donaldson*
RLG 3653Y Jewish Exegetical Traditions in Antiquity/*H. Fox*
RLG 3661H Judaism and Philosophy/*D. Novak*
RLG 3691H Themes in Jewish Studies I
RLG 3692H Themes in Jewish Studies II
RLG 3712H Asceticism in the Hindu Tradition/ *S. Sandahl*
RLG 3713Y Hinduism and Politics/*S. Sandahl*
RLG 3741H Interpretations of Hindu Tradition/ *Staff*
RLG 3743H The Bhakti Tradition/*Staff*
RLG 3745H Hindu Myths and Mythology/*Staff*
RLG 3761H Nature and Religion in South Asia/*S. Kumar*
RLG 3930H Religion in Canada Since 1867/ *P. Airhart*
RLG 3931H Topics in North American Religions/*P. Klassen*
RLG 3941Y Celtic Mythology/*A. Dooley*
RLG 4000Y Directed Reading: TST Seminar
RLG 4001H Directed Reading: TST Seminar

***Other Departments***

Students may take the following courses offered by other graduate units.

*Classics*

JMT 1002H Augustine: *Soliloquia*/*J. Magee*

*Comparative Literature*

COL 2250Y The Language of Poetry/*J. E. Chamberlin*
COL 3175H Augustine: Early Philosophical Writings/*B. Stock*
COL 3180H Ethics and Literature from Late Antiquity to the Renaissance/ *B. Stock*
COL 5023Y The History of Reading Between Late Antiquity and the End of the Sixteenth Century/*B. Stock*
COL 5024Y Thomas More: Renaissance Humanism and the History of Utopian Thought/*B. Stock*

*East Asian Studies*

EAS 1143Y Civilization in Medieval China/ *R. Guisso*
EAS 1223Y Readings in Dharmasastra/ *S. Sandahl*
EAS 1999Y Seminar in East Asian Studies in Bibliography, Reference and Research Methodology/*R. J. Lynn*

*Ethnic and Pluralism Studies (Collaborative Program)*

JTH 3000H Coordinating Seminar in Ethnic and Pluralism Studies/*Staff*

*History*

HIS 1000H Historiography/*C. T. McIntire*
HIS 1201H The Materials of Medieval History/*J. Goering*
HIS 1204H The Life and Writings of Thomas Aquinas/*J. Goering*
HIS 1206H Popular Religion in the Middle Ages/*J. Goering*
HIS 1207H Pastoralia: The Medieval Literature of Pastoral Care/*J. Goering*
HIS 1208H Writings of Robert Grosseteste/ *J. Goering*
HIS 1211Y History and Historiography in the Golden Legend/*J. Goering*
HIS 1213H Medieval Monasticism/*I. Cochelin*
HIS 1221H Topics in Early Modern Social History/*N. Terpstra*

HIS 1222H Ritual in Renaissance and Early Modern Europe/*N. Terpstra*
HIS 1230H The Sexes in the Western World, 1450-1650/*J. Abray*
HIS 1242H Religion and Society in Europe, 1760-1914/*C. T. McIntire*
HIS 1245H Women in Early Modern Europe/ *B. Todd*
HIS 1268H Modernism and Modernity: European Culture, 1870-1950/ *M. Eksteins*
HIS 1536H Religion, Society, and Politics in Eighteenth- and Nineteenth-Century America/*A. Sheps*
HIS 1537H Society, Culture and Politics in the Early United States, 1780-1850/ *A. Sheps*
HIS 1674Y Japanese Political Thought, 1868-Present/*J. Brownlee*
JHA 1685Y Medieval Indian Society: Concepts of Law, State, and Social Structures to 1800 A.D./*N. K. Wagle*
JHA 1686H Studies in Ancient and Medieval Indian Historiography/*N. K. Wagle*
JHA 1690Y Nationalism in India—Before and After Independence/*Staff*

*Italian Studies*
ITA 1545H The Sacra Rappresentazione/ *K. Eisenbichler*

*Medieval Studies*
MST 1015Y Latin Hagiographic Literature, ca. 300-800/*J. H. Corbett*
MST 1210H Judeo-Christian Koine Greek/ *R. E. Sinkewicz*
MST 1212H The Apocryphal Bible/*R. E. Sinkewicz*
MST 3021H Boethius/*J. Magee*
MST 3205Y Violence in Medieval Society/ *M. Meyerson*
MST 3210H Medieval Spain, 1000-1300/ *M. Meyerson*
MST 3259H Medieval Monastic Culture: Lands of St. Benedict/*R. E. Reynolds, V. Brown*
MST 3261H Cluny in the Central Middle Ages/ *I. Cochelin*
MST 3265H Hagiographies/*I. Cochelin*
MST 3401H Introduction to Medieval Christianity/*R. Sinkewicz*
MST 3405H Early Christian Monasticism/ *R. Sinkewicz*
MST 3415Y John Cassian and Early Monasticism in Gaul/*R. E. Sinkewicz*

*Near and Middle Eastern Civilizations*
NMC 1203Y Late Egyptian Texts/*R. J. Leprohon*
NMC 1204Y Cursive Scripts/*R. J. Leprohon*
NMC 1209Y Old Egyptian Texts/*R. J. Leprohon*
NMC 1213Y Egyptian Religious and Funerary Literature/*R. J. Leprohon*
NMC 1305H Early Hebrew Epigraphy/*J. B. Peckham*
NMC 1311Y Post-Biblical Hebrew: Mishnah and Midrashim/*H. Fox*
NMC 1324Y Hebrew Legal Codes, Medieval and Modern/*H. Fox*
NMC 1614Y Ancient Egyptian Religion/*R. J. Leprohon*
NMC 1651H Northwest Semitic Epigraphy/*J. B. Peckham*
NMC 1652H Ugaritic Religious Texts/*J. B. Peckham*
NMC 2052Y Islamic Religious Thought/*M. E. Marmura*
NMC 2053H Islam in Cross-Cultural Contact: Interreligious and Intercultural Encounters/*Staff*
NMC 2055H The Qur'an and Its Interpretation/ *Staff*
NMC 2056H Reading in Qur'an and Tafsir/*Staff*
NMC 2090Y Islamic History to the Fall of Baghdad/*L. Northrup*
NMC 2112Y Medieval Islamic Institutions/ *L. Northrup*
NMC 2119Y Readings in Medieval Arabic Historical and Documentary Sources/*L. Northrup*
NMC 2131Y Ethics and Education in Medieval Arabic Texts/*S. Günther*
NMC 2132Y Hadith: Classical Religious Literature in Islam/*S. Günther*
NMC 2133H Medieval Arabic Sources on Islamic Thought/*S. Günther*
NMC 2170Y Topics in Modern Middle Eastern History/*J. Reilly*
NMC 2172Y Modern Arab History/*J. Reilly*
NMC 2221Y Medieval Persian Ethical and Advice Literature/*M. E. Subtelny*
NMC 2222Y Persian Mystical Poetry/*M. E. Subtelny*

*Philosophy*
PHL 2015H Confucianism/*V. Shen*
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/*M. Vertin*

PHL 2119H Philosophical Foundations of Multidisciplinary Studies/*M. Vertin*
PHL 2140H Feminist Philosophy/*L. Lange*
PHL 2144H Seminar in Social Philosophy
PHL 2146H Topics in Bioethics
JVP 2147H Environmental Philosophy/*I. Stefanovic*
PHL 2151H Aesthetics
PHL 2181H Philosophy of Religion

*Sociology*
SOC 6016H Social Demography/*E. Fong*
SOC 6018H Society of Religion I
SOC 6118H Society of Religion II
SOC 6201H Sociological Theory III—Theory and Method in Historical Sociology

*South Asian Studies*
SAS 1220Y Abhidharma (The Systematic Philosophy of the Old Schools of Buddhism from Pali and Sanskrit Texts)/*Staff*
SAS 1221Y *Madhyamaka* (The Dialectical Philosophy of Nagarjuna)/*L. C. D. C. Priestley*
SAS 1512H Bengali Religious History/*Staff*
SAS 1513H Readings in Bengali Literature/*Staff*

# Russian and East European Studies RUS

## Graduate Faculty

### Full Members

V. Ambros, BA, MA, PhD/Slavic
C. J. Barnes, BA, MA, PhD/Slavic
G. Bisztray, PhD/Slavic/Hungarian Chair
Y. M. Bodemann, MA, PhD/Sociology
R. Bogert, BA, MA, PhD/Slavic
A. Braun, BA, MA, PhD/Political Science
R. J. Brym, BA, MA, PhD/Sociology
F. Csillag, MSc, PhD/Geography
R. B. Day, BA, MA, Dip REES, PhD/Political Science
M. Dimnik, BA, MA, MDiv, DPhil/Medieval Studies
E. W. Dowler, BA, AM, PhD/History
H. Friedmann, AB, MA, PhD/Sociology
R. E. Johnson, BA, MA, PhD/History
J. Kivimäe, BA, PhD/History/Estonian Studies Chair
C. E. Kramer, BA, MA, PhD/Slavic
T. Lahusen, BA, MA, PhD/History
K. A. Lantz, BA, MA, PhD/Slavic
P. R. Magocsi, AB, MA, MA, PhD, FRSC/Political Science/History/Ukrainian Chair
D. Orwin, BA, MA, PhD
V. Ostapchuk, BA, PhD/Near & Middle Eastern Civilizations
R. W. Pruessen, BA, MA, PhD/History
A. Rossos, BA, MA, PhD/History
J. Schallert, BA, MA, MA, PhD/Slavic
D. V. Schwartz, BA, MA, PhD/Political Science ***(Coordinator of Graduate Studies)***
B. A. Sigmon, BA, MS, PhD/Anthropology
S. Solecki, BA, MA, PhD/English
P. H. Solomon, BA, MA, CertRussInst, PhD/Political Science ***(Director)***
S. G. Solomon, BA, MA, CertRussInst, PhD/Political Science
M. E. Subtelny, BA, PhD/Near & Middle Eastern Civilizations
M. D. Tarnawsky, BA,PhD/Slavic
L. Viola, BA, MA, PhD/History
B. Wellman, BA, MA, PhD/Sociology
P. Wróbel, MA, PhD/History

### Members Emeriti

C. H. Bedford, BA, MA, PhD
P. Brock
B. J. Budurowycz, BA, MA, PhD
L. Dolezel, BA, MA, PhD
H. L. Dyck, BA, MA, PhD
S. M. Eddie, BS, PhD
R. Gregor, BA, MA, PhD
F. J. C. Griffiths, BA, MIA, PhD
L. Iribarne, BA, MA, PhD
W. W. Isajiw, BA, MA, PhD
R. H. Marshall, PhD
N. Pavliuc, BA, MA, PhD
D. Pokorny, PromFil, CSc
C. V. Ponomareff, BA, MA, PhD
N. N. Shneidman, BA, MA, PhD
J. Skvorecky
R. D. B. Thomson, BA, MA, DPhil
G. Zekulin, BA, MA

### Associate Members

R. Austin, BA, MA, PhD
O. Bakich, BA, MA, PhD
S. Beckwith
S. D. Campbell, BA, MA, PhD
E. Klein, PhD
K. Knop, BSc, LLB, LLM, SJD
T. Koznarsky, MA, PhD
R. Lindheim, BA, MA
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T. Trojanowska, BA, MA, PhD
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The Centre for Russian and East European Studies was founded in 1963 to further the development of undergraduate and graduate studies and scholarly research related to Russia and Eastern Europe. This area includes both the USSR and pre-1917 Russia, and the region of Eastern Europe, with special emphasis on the Slavic nations. The Centre acts as a liaison between the departments and advises students in matters relating to the study of Russia and Eastern Europe. Graduate work relating to Russia, the Soviet Union, and Eastern Europe may be undertaken for the M.A. and Ph.D. degrees in a discipline such as economics, geography, history, political science, Slavic languages and literatures, or sociology under the appropriate department. In addition, the Centre offers its own M.A. program in Russian and East European Studies.

## Degree of Master of Arts

### *Admission and Special Requirements*

Candidates for the M.A. 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. Candidates 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.

The M.A. program requires a minimum of two sessions of full-time graduate study. Students will be required to take six full courses or the equivalent. Of the six, at least two (or the equivalent) must be taken in a discipline chosen by students as their major discipline and one must be RUS 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 (Russian and East European Studies)**

The J.D./M.A. program is intended for highly qualified candidates who wish to combine the study of law with the opportunities that a detailed knowledge of eastern Europe and the countries of the former Soviet Union now offer. The program allows candidates to receive the combined degree in four years of study instead of the five years needed to take the degrees separately.

Candidates will be admitted to the Faculty of Law in the first year and receive deferred admission to the M.A. program in Russian and East European Studies. The first year of study will consist of the first year of the J.D. In the second, third, and fourth years of the combined program, students will pursue credits in both Law and Russian and East European Studies. Applicants who have completed a year in the Russian and East European Studies master's program or the first year of the J.D. can apply for admission to the combined program.

Applicants must separately apply to and be accepted by both the J.D. program and the M.A. (Russian and East European Studies) programs. They must satisfy the normal admission requirements for each program.

**Combined Master of Arts (Russian and East European Studies)/Master of Business Administration**

The M.A./M.B.A. program is intended for highly qualified candidates who can benefit from the combined study of Russia and Eastern Europe and Business Administration. The program allows candidates to receive the combined degrees in three years instead of the four needed to complete the degrees separately.

Candidates will be admitted to the Faculty of Management in the first year and receive a deferred acceptance to the M.A. (Russian and East European Studies) program. The first year of study will consist of the M.B.A. core program. In the second and third years of the program, students will pursue courses in both Management and in Russian and East European Studies. Applicants who have completed a year in the Russian and East European Studies master's program or the first year of the M.B.A. can apply for admission to the combined program.

Applicants must separately apply to and be accepted by both the M.B.A. and the M.A. (Russian and East European Studies) programs. They must satisfy the normal admission requirements for each program.

**Courses of Instruction**

Not all courses are offered every year. Consult the Centre for course availability.

***Required***

RUS 2000Y Research Seminar/*Staff*

***Optional***

*Comparative Literature*

COL 1300H Topics in Comparative Literature: Fictional Worlds/*L. Dolezel*

*Economics*

RUS 1197H The Economics of Transition in Russia

RUS 1198H From Plan to Market: The Economics of Transition

*Film and Music*

RUS 1187H Music in Russian Culture

*History*

HIS 1280Y History of Soviet Cinema (joint graduate/undergraduate)/ *T. Lahusen*

HIS 1281H Experiences of Real Socialism/ *T. Lahusen*

HIS 1282H Totalitarian Culture/*T. Lahusen*

HIS 1283H War, Plague and Hunger in the Early Modern Baltic/*J. Kivimäe*

HIS 1284H The Baltic World/*J. Kivimäe*

HIS 1285Y The Ukrainian National Revival/ *P. Magocsi*

HIS 1287H Polish Jews Since the Partitions of Poland/*P. Wróbel*

HIS 1288H Age of Experiments/*P. Wróbel*

HIS 1291H Topics in Russian and Soviet Social History/*R. Johnson*

HIS 1292H The Russian Revolution/ *R. Johnson*
HIS 1293Y Kievan Rus'/*P. Magocsi*
HIS 1295H Soviet History Seminar/*L. Viola*
HIS 1296H Problems in Russian and Soviet Foreign Policy/*A. Rossos*
HIS 1297H Problems of Political Survival in Eastern Europe Since 1848/ *A. Rossos*
HIS 1299H Topics in Russian Intellectual History/*W. Dowler*
RUS1186H The Past As Prologue: East Central and Southeastern Europe in the Interwar Period/*R. Austin*

*Political Science*
JHP 1289Y Twentieth-Century Ukraine/ *P. Magosci*
POL 2004Y Marxism/*R. B. Day*
POL 2304Y Soviet and Post-Soviet Politics/ *D. V. Schwartz, P. H. Solomon*
POL 2308Y Politics and Government of Eastern Europe/*A. Braun*
POL 2324H Ethnonationalism and State-Building: The Communist and Post-Communist Experience/ *D. V. Schwartz*
RUS 1184H Polls and Public Opinion in Post-communist Countries/ *B. Sergeyev*
RUS 1188H Public Policy in Post-Communist Eastern Europe

*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 1517H Modern South Slavic Poetry/ *R. Bogert*
SLA 1520H Bosnia in Literature and Culture: Between Croats and Serbs/ *R. Bogert*
SLA 1521H Topics in Modern Croatian Literature/*R. Bogert*
SLA 1522Y The Modern Serbian Novel/ *R. Bogert*
SLA 1537H Political Drama from Dubrovnik to the Danube/*R. Bogert*
SLA 1547H South Slavic Folklore/*R. Bogert*

*Czech and Slovak Literatures*
SLA 1600Y Studies in Czech and Slovak Literatures/*V. Ambros*
SLA 1601Y Modern Czech Fiction/*V. Ambros*
SLA 1603Y Readings in Czech/Russian Literary Theory/*V. Ambros*
SLA 1604Y History of the Czech Literary Language/*V. Ambros*
SLA 1605Y Modern Czech Drama and Theatre/*V. Ambros*
SLA 1606H Czech Short Story/*V. Ambros*

*Estonian Literature*
SLA 1420Y Estonian National Identity/ *H. Murk*
SLA 1421Y Women in East European Fiction/ *T. Kirss*

*Hungarian Literature*
HUN 1440Y The Modern Hungarian Novel/ *G. Bisztray*
HUN 1450H Hungarian Drama/*G. Bisztray*
HUN 1451H Three Hungarian Film Directors/ *G. Bisztray*

*Polish Literature*
SLA 1304H Staging God, Man, and History: Polish Drama and Theatre in Context/*T. Trojanowska*
SLA 1305Y Polish Fiction or A Disrupted Funeral of the Novel/ *T. Trojanowska*
SLA 1306H Polish Poetry: Shaping the National Canon/*T. Trojanowska*
SLA 1307H Studies in Polish Poetry: Twentieth Century/*L. Iribarne*
SLA 1308Y Topics in Polish Literature/ *T. Trojanowska*
SLA 1310H Revolutions in the Theatre: Slanislavski, Meyerhold, Grotowski, and Kantor/ *T. Trojanowska*
SLA 1311Y Nationalism and National Identity: Historical and Literary Trajectories in Poland/*T. Trojanowska, P. Wrobel*
SLA 1312Y Modernism and Post-modernism in Polish Literature in the Twentieth Century and Beyond/ *T. Trojanowska*
SLA 1331H Imagining "The Other" in Polish Literature and Culture/ *T. Trojanowska*

*Russian Literature*
SLA 1201Y Studies in the Russian Novel/*Staff*
SLA 1203Y Studies in Russian Modernism/ *Staff*
SLA 1204H Contemporary Russian Literature/ *Z. Davydov*
SLA 1205H Literary Scandals in Twentieth-Century Russia/*Z. Davydov*
SLA 1210H Studies in Medieval Russian Literature/*Staff*

SLA 1211Y Studies in the Russian Drama: Eighteenth to Twentieth Centuries/*R. Lindheim*
SLA 1212H Gogol/*Staff*
SLA 1215H Studies in Russian Literature of the Eighteenth Century/*Staff*
SLA 1225H Russian Literature and Criticism in the 1860s/*K. A. Lantz*
SLA 1230Y Russian Emigré Literature, 1917-1945/*O. Bakich*
SLA 1233H Studies in Modern Russian Poets/ *R. D. B. Thomson*
SLA 1234H Dostoevsky/*D. Orwin*
SLA 1235H Pasternak/*C. J. Barnes*
SLA 1236Y Pushkin/*Staff*
SLA 1238H Chekhov/*R. Lindheim*
SLA 1240H L. Tolstoy/*D. Orwin*
SLA 1243H Leskov/*K. A. Lantz*
SLA 1250H Russian Journalism: 1830-1860, The Formative Decades/ *R. Lindheim*
SLA 1900Y Russian Poetry (for M.A. candidates only)/*C. J. Barnes*

*Ukrainian Literature*
SLA 1402Y Studies in Ukrainian Modernism/ *D. H. Struk*
SLA 1403Y Studies in Contemporary Ukrainian Literature/*D. H. Struk*
SLA 1404Y Studies in Ukrainian Poets/*D. H. Struk*
SLA 1405Y Experiments in Ukrainian Prose/ *M. Tarnawsky*
SLA 1406Y Studies in Ukrainian Literary Criticism/*M. Tarnawsky*
SLA 1407H Aspects of Literary Translation of Ukrainian/*D. H. Struk*

*Slavic Linguistics*
SLA 1101Y History of the Russian Language/ *J. Schallert*
SLA 1102Y Advanced Russian Language Skills/*C. J. Barnes*
SLA 1103H Comparative South Slavic Linguistics/*J. Schallert*
SLA 1104Y Old Church Slavonic/*J. Schallert*
SLA 1105Y Structure of Russian/*C. E. Kramer*
SLA 1106H Proseminar in Diachronic Slavic Linguistics/*J. Schallert*
SLA 1107H Comparative West Slavic Linguistics/*J. Schallert*
SLA 1109H Old Church Slavonic Translation Technique/*J. Schallert*
SLA 1110H Comparative Historical Slavic Linguistics/*J. Schallert*
SLA 1112H Tense, Aspect, and Mood in Slavic/*C. E. Kramer*
SLA 1141H History of the Ukrainian Language/*Staff*
SLA 1142H Style and Structure of Ukrainian/ *Staff*
SLA 1150H Russian Since the Revolution/ *C. E. Kramer*
SLA 1151Y History of the Polish Language (PR)/*J. Schallert*
SLA 1160H Proseminar in Synchronic Slavic Linguistics/*C. E. Kramer*
SLA 1161H An Introduction to Areal Linguistics: The Balkan Sprachbund/ *C. E. Kramer*

*General Slavic*
SLA 1036H Metamorphosis of Modernity in Central Europe/*V. Ambros, G. Bisztray, T. Trojanowska*
SLA 1037Y Theatre and Cinema *in Extremis:* Staging Twentieth Century Aesthetics and Politics/ *V. Ambros, T. Trojanowska*
SLA 1038H Magic Prague/*V. Ambros*

*Reading and Research Courses*
RUS 1997Y Reading and Reseach III
RUS 1998H Reading and Research I
RUS 1999H Reading and Research II

For further information about graduate programs and study grants, please contact the Director.

(PR) Courses with prerequisites

# Semiotics (Collaborative Program)

**Program Committee**

R. Capozzi, BA, MA, PhD/Italian Studies, Comparative Literature
M. Danesi, BA, MA, PhD, FRSC/Spanish, French Language & Literature
M. Gieri, DLett, PhD/Italian Studies, Comparative Literature ***(Director)***
R. J. Le Huenen, L ès L, DES, DenPh, ChPA/French Language & Literature, Comparative Literature
H. V. Luong, BA, MA, PhD/Anthropology
P. J. G. O. Perron, BA, D de L'U, ChPA, FRSC/French Language & Literature, Comparative Literature
P. A. Reich, BS, MS, PhD/Linguistics

**Participating Faculty**

J. K. Chambers, BA, MA, PhD, DipEd/Linguistics
H. S. F. Collins, MA, PhD/French Language & Literature
D. de Kerckhove, BA, MA, PhD, Dip 3ème Cycle, FRSC/French Language & Literature, Information Studies
B. Havercroft, BA, MA, PhD/French Language & Literature
L. A. M. Hutcheon, BA, MA, PhD, University Professor/English, Comparative Literature
I. Kalmar, BA, MA, PhD/Anthropology, Information Studies
J. M. Kennedy, BSc, MSc, PhD/Psychology
J. D. LeBlanc, MA, PhD/French Language & Literature
C. J. Misak, BA, MA, DPhil/Philosophy
J. M. Paterson, MA, PhD, FRSC/French Language & Literature

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*Fax:* (416) 585-4584
*E-Mail:* semiotics.collab@utoronto.ca
*Web:* www.utoronto.ca/semiotics

**Nature of the Collaborative Program**

Graduate units in Anthropology, Comparative Literature, French, Italian, and Linguistics participate in the Collaborative Master's Program in Semiotics at the University of Toronto. The collaborating units contribute faculty, courses, and supervision for master's level research. The Centre for Comparative Literature is the coordinating unit. The program is housed at Victoria College. A Program Committee, chaired by a Program Director, administers the collaborative program.

The collaborative master's degree in Semiotics is a highly interdisciplinary program designed for graduates from various disciplines showing advanced training in semiotics and communication theory. The major topics of emphasis in the Collaborative M.A. Program are general semiotics, anthropological semiotics, historical semiotics, French semiotics, Italian semiotics, Peircean semiotics, applied semiotics, and visual semiotics. The Collaborative Master's Program in Semiotics will contribute to the development of an integrated research community at the University of Toronto.

Applicants to the Collaborative Master's Program in Semiotics are expected to meet the admission and degree requirements of both the home unit and the collaborative program. The student's program is subject to the approval of the Program Committee in Semiotics. Upon successful completion of the degree requirements, students will receive the notation "Completed Collaborative Master's Program in Semiotics" on their transcript in addition to the master's degree from their home graduate unit.

**Application Procedures**

Applicants to the Collaborative Master's Program in Semiotics must apply to and register in one of the participating graduate units. Applicants must also submit a supplementary application to the collaborative program. In order to qualify for admission into the Collaborative Master's Program in Semiotics, applicants must be offered admission to a participating graduate unit. Applicants must forward the following to the Director of the collaborative program:

**1** A copy of the School of Graduate Studies Application Form submitted to a participating graduate unit
**2** Official undergraduate and graduate transcripts from all institutions attended previously and currently
**3** At least two letters of reference with specific mention of formal training in general and/or applied semiotics
**4** A statement of purpose

Decisions on admission to the Collaborative Program will be made by the Program Director in conjunction with a sub-committee appointed by the Program Committee.

**Degree of Master of Arts**

***Admission Requirements***

To be considered for admission to the Collaborative Program in Semiotics at the master's level, applicants must demonstrate knowledge of the various approaches associated with the history and development of Semiotics. Applicants lacking interdisciplinary background in

the field must be able to demonstrate extensive familiarity with Semiotics as applied to a single discipline or a cognate set of disciplines.

***Program Requirements***

*Thesis Master's Degree:*

- core course (SEM 1000Y), or one-full course equivalent
- one full course or equivalent selected from course list
- a thesis or major paper related to semiotic topics (approved by the home unit and by the Program Committee in Semiotics)

*Non-Thesis Master's Degree:*

- core course (SEM 1000Y), or one full-course equivalent
- two full courses, or equivalent selected from the course list

**Courses of Instruction**

Not all courses are offered every year. Please consult the graduate unit concerning course availability.

SEM 1000Y General Semiotics: from Saussure to Peirce and Eco

***Anthropology***

ANT 5145H Semiotics of High Culture and Popular Culture/*I. Kalmar*
ANT 5146Y Classic Texts on the Semiotics of Modern Culture/*I. Kalmar*
ANT 5167H Language, Ideology, and Political Economy/*H. V. Luong*

***Comparative Literature***

COL 1000H Theories of Literature and Criticism/*Staff*
COL 1210Y Recent Trends in Narrative Theory/*J. Miller*
COL 1255H Aspects of Structuralism/ *R. Le Huenen*
COL 1700H Humour in Postmodernity/ *E. Kushner*
COL 2000H Hermeneutics and Historicity of Texts/*M. J. Valdés*
COL 2500H Literature and Post-Structuralism/ *P. W. Nesselroth*
JIC 5000H,Y Narrative and Intertextuality in Italian Fiction/*R. Capozzi*

***French***

FRE 1200Y Séminaire de littérature/*Staff*
FRE 1300H Chrétien de Troyes/*F. Collins*
FRE 2036H Configurations du genre sexuel dans la prose/*B. Havercroft*
FRE 2078H Altérité: formes et signification/ *J. Paterson*
FRE 2092H La Construction du personnage féminin/*J. LeBlanc*

***Italian***

ITA 1051H Italian Semantics/*Staff*
ITA 1170H Textual Criticism and the Editing of Texts/*M. Lettieri*
ITA 1729H Contemporary Literary Criticism in Italy/*R. Capozzi*
ITA 1730Y Aspects of Semiotic Theory and Practice in Italy/*Staff*
ITA 1810H Studies in Italian Film and Literature/M. Gieri
JIC 5000H,Y Narrative and Intertextuality in Italian Fiction/*R. Capozzi*
JIL 1140H Semiotics/*Staff*

***Linguistics***

LIN 1145H Semantics
LIN 1154H Sociology of Language
LIN 1162H Comparative-Historical Linguistics
LIN 1172H Introduction to Cognitive Linguistics
LIN 1180H History of Linguistic Thought
LIN 1182H Language and Mind
LIN 1200Y Current Issues in Linguistic Theory
LIN 1201H Current Issues in Linguistic Theory
LIN 1245H Advanced Semantics I
LIN 1246H Advanced Semantics II
JIL 1140H Semiotics

# Slavic Languages and Literatures SLA

## Graduate Faculty

### Full Members

V. Ambros, BA, MA, PhD
O. Bakich, BA, MA, PhD
C. J. Barnes, BA, MA, PhD
G. Bisztray, PhD
R. Bogert, BA, MA, PhD
T. Koznarsky, MA, PhD
C. E. Kramer, BA, MA, PhD
K. A. Lantz, BA, MA, PhD
***(Acting Chair)***
R. Lindheim, BA, MA
L. Livak, MA, PhD
D. Orwin, BA, MA, PhD
J. Schallert, BA, MA, MA, PhD
M. D. Tarnawsky, BA, PhD
T. Trojanowska, BA, MA, PhD
B. Vähämäki, BA, MA, MA, PhLic, PhD, Docent

### Members Emeriti

C. H. Bedford, BA, MA, PhD
B. J. Budurowycz, BA, MA, PhD
L. Dolezel, BA, MA, PhD
I. A. Evreinov, BA, MA, PhD
L. Iribarne, BA, MA, PhD
R. H. Marshall, PhD
N. Pavliuc, BA, MA, PhD
C. V. Ponomareff, BA, MA, PhD
N. N. Shneidman, BA, MA, PhD
R. D. B. Thomson, BA, MA, DPhil
G. Zekulin, BA, MA

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*Fax:* (416) 926-2076
*E-mail:* slavic@utoronto.ca
*Web:* www/utoronto.ca/slavic/

Candidates are admitted under the general regulations. At the time of application, all candidates should have two letters of recommendation and a sample of written work sent to the Coordinator of Graduate Studies of the Department.

The Department of Slavic Languages and Literatures offers instruction leading to two graduate degrees: M.A. and Ph.D.

## Degree of Master of Arts

### *Admission Requirements*

Four-year B.A. graduates of the University, or students with equivalent qualifications from a recognized university, may be accepted as candidates for the degree of Master of Arts. Normally, a B+ average or better in Slavic subjects taken in the third and fourth years of the B.A. program is required.

### *Program Requirements*

Ordinarily, a candidate spends a full year in residence devoted to four graduate courses, or alternatively, three graduate courses and a research paper which must be written in English.

Candidates majoring in Russian Language and Literature must have completed, by the end of residence, at least one approved undergraduate course, or the equivalent, in a Slavic language other than Russian, and must satisfy departmental requirements in Russian language. Such students are required to take a Russian language examination during the first week of term. Those who fail are required to take SLA 420Y and earn a final grade of at least B+.

Candidates not majoring in Russian must acquire a working knowledge of Russian which will be tested by examination before the completion of their program.

All M.A. candidates are required to take SLA 1104Y *Old Church Slavonic* or present evidence to the Department that an equivalent course has been completed elsewhere. A final grade of B or better is required in all language courses.

## Degree of Doctor of Philosophy

### *Admission Requirements*

Candidates for the degree of Doctor of Philosophy must have completed the M.A. of this Department with at least an A- average or provide evidence of having equivalent qualifications from a recognized university; all candidates must satisfy the Department of their capacity for independent scholarly work.

During the first two years of the Ph.D. program, students are required to take courses and to be on campus full-time and consequently in such geographical proximity as to participate fully in the activities of the program. Completion of all requirements, including the thesis, typically takes at least five years.

The Department of Slavic Languages and Literatures offers the following subjects 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
Ukrainian Language and Literature

***Program Requirements***

**1** The equivalent of nine full courses including at least one in Slavic linguistics. Credit for not more than three of these courses may be given for work done in an M.A. program. All Ph.D. candidates are required to obtain an average of at least A- in their graduate course work.
**2** Reading knowledge of French or German.
**3** Candidates majoring in Slavic linguistics must have completed, by the end of their second year, at least one Slavic language course from each of the three groups: West Slavic, East Slavic, and South Slavic.
**4** Candidates not majoring in Slavic linguistics must have completed, by the end of their second year, at least two undergraduate language courses, or the equivalent, in a Slavic language other than Russian.
**5** All Ph.D. course programs must include a major subject and a minor subject; the minor subject should include at least two courses from any of the six subjects listed above. Candidates not majoring in Russian literature are urged to select it as the minor.
**6** In addition to the major and minor subjects, the candidate is also required to complete one course from another related field either within or outside the Department, (for example, Comparative Literature or Linguistics). This course is to be chosen in consultation with the graduate coordinator.
**7** After successful completion of course work, during the fall of the third year, candidates must pass written comprehensive examinations in the major field and special field followed by an oral examination.
**8** Submit a thesis on an approved subject and pass a final thesis defence. The thesis must be written in English.

**Courses of Instruction**

Students should consult the departmental handbook for final course offerings.

***Croatian and Serbian Literatures***

SLA 1517H Modern South Slavic Poetry/ *R. Bogert*
SLA 1520H Bosnia in Literature and Culture: Between Croats and Serbs/ *R. Bogert*
SLA 1521H Topics in Modern Croatian Literature/*R. Bogert*
SLA 1522Y The Modern Serbian Novel/ *R. Bogert*
SLA 1537H Political Drama from Dubrovnik to the Danube/*R. Bogert*
SLA 1547H South Slavic Folklore/*R. Bogert*

***Czech and Slovak Literatures***

SLA 1600Y Studies in Czech and Slovak Literatures/*V. Ambros*
SLA 1601Y Modern Czech Fiction/*V. Ambros*
SLA 1602Y Czech Syntax and Style/*Staff*
SLA 1603Y Readings in Czech/Russian Literary Theory/*V. Ambros*
SLA 1604Y History of the Czech Literary Language/*V. Ambros*
SLA 1605Y Modern Czech Drama and Theatre/*V. Ambros*
SLA 1606H Czech Short Story/*V. Ambros*

***Estonian Literature***

SLA 1420Y Estonian National Identity/ *H. Murk*
SLA 1421Y Women in East European Fiction/ *T. Kirss*

***Hungarian Literature***

HUN 1440Y The Modern Hungarian Novel/ *G. Bisztray*
HUN 1450H Hungarian Drama/*G. Bisztray*
HUN 1451H Three Hungarian Film Directors/ *G. Bisztray*

***Polish Literature***

SLA 1304H Staging God, Man, and History: Polish Drama and Theatre in Context/*T. Trojanowska*
SLA 1305Y Polish Fiction or A Disrupted Funeral of the Novel/ *T. Trojanowska*
SLA 1306H Polish Poetry: Shaping the National Canon/*T. Trojanowska*
SLA 1307H Studies in Polish Poetry: Twentieth Century/*T. Trojanowska*
SLA 1308Y Topics in Polish Literature/ *T. Trojanowska*
SLA 1310H Revolutions in the Theatre: Slanislavski, Meyerhold, Grotowski, and Kantor/ *T. Trojanowska*
SLA 1311Y Nationalism and National Identity: Historical and Literary Trajectories in Poland/*T. Trojanowska, P. Wrobel*
SLA 1312Y Modernism and Post-modernism in Polish Literature in the Twentieth Century and Beyond/ *T. Trojanowska*

SLA 1331H Imagining "The Other" in Polish Literature and Culture/ *T. Trojanowska*

***Russian Literature***

SLA 1201Y Studies in the Russian Novel/ *Staff*
SLA 1203Y Studies in Russian Modernism/ *Staff*
SLA 1204H Contemporary Russian Literature/ *Z. Davydov*
SLA 1205H Literary Scandals in Twentieth-Century Russia/*Z. Davydov*
SLA 1210H Studies in Medieval Russian Literature/*Staff*
SLA 1211Y Studies in the Russian Drama: Eighteenth to Twentieth Centuries/*R. Lindheim*
SLA 1212H Gogol/*Staff*
SLA 1215H Studies in Russian Literature of the Eighteenth Century/*Staff*
SLA 1225H Russian Literature and Criticism in the 1860s/*K. A. Lantz*
SLA 1230Y Russian Emigré Literature, 1917-1945/*O. Bakich*
SLA 1232H Russian Symbolism/*L. Livak*
SLA 1233H Studies in Modern Russian Poets/ *C. J. Barnes*
SLA 1234H Dostoevsky/*D. Orwin*
SLA 1235H Pasternak/*C. J. Barnes*
SLA 1236Y Pushkin/*Staff*
SLA 1238H Chekhov/*R. Lindheim*
SLA 1240H L. Tolstoy/*D. Orwin*
SLA 1243H Leskov/*K. A. Lantz*
SLA 1250H Russian Journalism: 1830-1860, The Formative Decades/ *R. Lindheim*
SLA 1900Y Russian Poetry (for M.A. candidates only)/*C. J. Barnes*

***Ukrainian Literature***

SLA 1402Y Studies in Ukrainian Modernism/ *Staff*
SLA 1403Y Studies in Contemporary Ukrainian Literature/*D. H. Struk*
SLA 1404Y Studies in Ukrainian Poets/*Staff*
SLA 1405Y Experiments in Ukrainian Prose/ *M. Tarnawsky*
SLA 1406Y Studies in Ukrainian Literary Criticism/*M. Tarnawsky*
SLA 1407H Aspects of Literary Translation of Ukrainian/*Staff*

***Slavic Linguistics***

SLA 1101Y History of the Russian Language (PR)/*J. Schallert*
SLA 1102Y Advanced Russian Language Skills/*C. J. Barnes*
SLA 1103H Comparative South Slavic Linguistics/*J. Schallert*
SLA 1104Y Old Church Slavonic/*J. Schallert*
SLA 1105Y Structure of Russian/*C. E. Kramer*
SLA 1106H Proseminar in Diachronic Slavic Linguistics/*J. Schallert*
SLA 1107H Comparative West Slavic Linguistics/*J. Schallert*
SLA 1109H Old Church Slavonic Translation Technique/*J. Schallert*
SLA 1110H Comparative Historical Slavic Linguistics/*J. Schallert*
SLA 1112H Tense, Aspect, and Mood in Slavic/*C. E. Kramer*
SLA 1141H History of the Ukrainian Language/*Staff*
SLA 1142H Style and Structure of Ukrainian/ *Staff*
SLA 1150H Russian Since the Revolution/ *C. E. Kramer*
SLA 1160H Proseminar in Synchronic Slavic Linguistics/*C. E. Kramer*
SLA 1161H An Introduction to Areal Linguistics: The Balkan Sprachbund/ *C. E. Kramer*

***General Slavic***

SLA 1036H Metamorphoses of Modernity in Central Europe/*V. Ambros, G. Bisztray, T. Trojanowska*
SLA 1037Y Theatre and Cinema *in Extremis:* Staging Twentieth Century Aesthetics and Politics/*V. Ambros, T. Trojanowska*
SLA 1038H Magic Prague/*V. Ambros*
SLA 2001H One Term Reading and Research/ *Staff*
SLA 2002Y Reading and Research (for Ph.D. candidates only)/*Staff*
COL 1300H Topics in Comparative Literature: Fictional Worlds/ *L. Dolezel*

(PR) Courses with prerequisites

# Social Work SWK

## Graduate Faculty

### Full Members

J. G. Barber, BSW, BA, PhD
***(Dean beginning January 1, 2003)***
M. Beiser, MD
M. C. Bogo, BA, MSW, DASW, CSW, Sandra Rotman Chair in Social Work
A. S. Chambon, BA, MA, BSW, PhD
D. N. Dewees, BSc, LLB, BScEE, PhD
P. M. Evans, MSW, PhD
E. Fuller-Thomson, BA, BSW, MSW, PhD
U. G. George, BEd, BSc, MA, MA, PhD
***(Acting Dean until December 31, 2002)***
J. Globerman, BSW, MHSc, MSc, PhD, CSW
J. D. Hulchanski, BA, MSc(Pl), PhD, MCIP, Chow Yei Ching Social Work Chair in Housing
E. S. Lightman, BA, MA, PhD
M. A. MacAdam, BA, MSc, PhD
R. J. MacFadden, BA, MSW, PhD, CSW
P. L. McDonald, BA, MSW, PhD
***(Ph.D. Coordinator)***
J. E. Mosher, LLB, BMusA, LLM
H. Munroe-Blum, BA, BSW, MSW, PhD
S. Neysmith, BSc, MSW, DSW
C. Regehr, BA, MSW, PhD
I. Rootman, BA, MPh, PhD
C. J. Rosenthal, BA, MA, PhD
W. J. Shera, BA, MA, PhD
S. Stern, BA, MSW, PhD
N. Trocme, BA, MSW, PhD, Margaret and Wallace McCain Family Chair in Child and Family
A. K. T. Tsang, BSocSc, MSocSc, PhD

### Members Emeriti

D. F. Bellamy, MSW, DSW
M. Breton, BA, MSW
R. Garber, MSW, DSW
W. A. Herington, MSW
H. H. Irving, BS, MSW, PhD
N. C. Lang, MSW, PhD
E. Marziali, BA, MSW, PhD, Schipper Chair in Gerontological Social Work
D. E. Meeks, MSW, PhD
R. C. Mishra, PhD
S. D. Olyan, MSW, PhD
B. Schlesinger, MSW, PhD
C. P. Shah, MBBS, DCH, MRCP, FRCP
B. Z. Shapiro, MSW, PhD
F. J. Turner, DSW, CSW
L. M. Wells, BA, BSW, MSW, DASW, CSW

### Associate Members

R. Alaggia, BA, MSW, PhD
L. Anderson, BSW, MSW
B. Antle, MSW, PhD, CSW
J. Aronson, BSc, BSW, MSW, PhD
C. Baines, BA, BSW, MSW, PhD
R. Birnbaum, BA, BSW, MSW, PhD
I. Carmichael, MA, MEd, PhD
L. Davis, BA, MA, PhD
L. Fleisher, MSW, PhD
T. Gadalla, BSc, MSc, EdD
L. A. Gillies, BA, MA, PhD
K. Gold, BA, MA, MSW, BEd
N. Gold, BA, MSW, PhD
K. Gorey, BA, MSW, PhD
D. K. Hall, PhD
E. J. King, BA, MSW
M. Konstantarens, BA, MA, PhD
B. Lee, BA, MSW
W. Lee, BA, MSW, AdvDipSW, DipEd
D. Levine, MSW, PhD. CSW
A. Litvack, BSW, MSW, CSW
S. W. Lurie, BA, MSW
T. McNeil, BA, MSW, PhD
H. M. R. Meier, MB, ChB, MSc, FRCPsych, FRCPC
F. Mishna, MSW, PhD, CSW
M. F. Monahan, BA, MSW, PhD
T. Myers, BA, MSc, MSW, PhD
D. Nicholas, MSW, PhD
S. Novac, BA, MES, PhD
D. Offord, MDCN, FRCP, FAPA
R. Power, BA, BSW, MSW
K. D. Richard, MSW
E. Ridgely, MSW, CSW
R. Roberts, MSW, DASW, EdD, ResDipSW, CSW
S.R. Rodger-Faucher, BA, MSW, PhD
A. B. Rossiter, BM, MSW, EdD
I. Sakamoto, BA, MA, MSW, MS, PhD
W. Skinner, BA, MSW
S. Smyth, BA, MSW
M. J. Stewart, BA, MSW, PhD
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## INTRODUCTION

The Faculty of Social Work offers a professional/academic program of study leading to a Master of Social Work (M.S.W.) degree and a post-master's program leading to a Doctor of Philosophy (Ph.D.) degree.

The M.S.W. program is fully accredited as a professional program by the Canadian Association of Schools of Social Work (C.A.S.S.W.).

The mission of the Faculty is to promote social justice and equity through interdisciplinary knowledge-building and education for practice in social work and social welfare. The Faculty provides leadership for excellence:

**a** in the development and testing of new knowledge that impacts on social policy and social work practice at all levels;

**b** in social work education that prepares graduates for ethical, competent, innovative, and effective professional social work practice with all groups in society, including those experiencing intersecting oppressions related to age, class, gender, race, ethnicity, Native status/identity, sexual orientation, and differential abilities; and

**c** in promoting and maintaining an academic environment conducive to social justice and equal opportunity for all.

The Faculty of Social Work is distinguished by its special emphasis on the integration of research and practice; by its practicum education; by its identification of specific themes, which are responsive to societal needs, to guide it in setting priorities; and by its governing structure that brings together teaching faculty, field instructors, students, alumni, the profession, the administration, and the University as partners in the realization of the Faculty's mission. The Faculty of Social Work is actively engaged in a continuing process of renewal and development. Child and family welfare; gerontology; health; housing; and anti-racism, multiculturalism, and Native issues are current areas of emphasis. Social work practice encompasses all levels of practice (with individuals, families, groups, communities, organizations, and policy) and the Faculty of Social Work is committed to the interdependence and effectiveness of these levels of practice as contributing to social justice and social change. Further details of Faculty emphases and resources may be obtained from Faculty publications.

Two combined degree programs are available: a Combined Juris Doctor and Master of Social Work Program, and a Combined Master of Health Science and Master of Social Work Program.

The Faculty of Social Work also participates in four interdisciplinary collaborative programs:

- Addiction Studies
- Aging and the Life Course
- Ethnic and Pluralism Studies
- Women's Studies.

All students are admitted to the Faculty of Social Work under the general regulations and in accordance with the requirements listed below. Enrolment in the Faculty of Social Work entails adherence to the standards of professional behaviour for the Social Work profession set forth in the Social Work Code of Ethics of the Canadian Association of Social Workers. Initial admission enquiries should be made directly to the Faculty of Social Work. The application deadline for the M.S.W. program is ***December 15***. The application deadline for the Ph.D. program is ***February 1***. The Faculty of Social Work cannot guarantee the admission of all applicants who meet its minimum requirements.

## DEGREE OF MASTER OF SOCIAL WORK

Candidates entering with a three-year or four-year bachelor's degree from a recognized university will normally complete the program in two years of full-time study.

Candidates 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.

### Admission Requirements

Social Work education draws broadly from the social sciences. Although candidates from all disciplines are eligible to apply, an applicant with an academic background in the social sciences may be given preference for admission.

**1** Candidates for admission to the ***two-year M.S.W. Full-time Program*** shall have graduated with either a three-year or four-year bachelor's degree, or equivalent from the University of Toronto or an approved university, and normally shall have achieved a mid-B average in each of the last two years of full-time study (or equivalent).

**2** Candidates for admission to the ***M.S.W. Program with Advanced Standing*** shall have graduated with a Bachelor of Social Work degree from a recognized university, and normally shall have achieved a mid-B average in each of the last two years of full-time study (or equivalent).

**3** All applicants must have completed satisfactorily at least three full courses, or their equivalent, in the social sciences to include a half-credit course in research methodology, preferably in the social sciences. A grade less than mid-B in the required half-credit course in research methodology will lessen the applicant's probability of admission.
**4** Candidates must show evidence of suitability for professional education.
**5** Candidates must show evidence of facility in the English language (see SGS General Regulations).
**6** Candidates for the ***two-year M.S.W. Full-time Program*** must indicate on the M.S.W. Program Application Form:
**a** a willingness to participate in a breadth of social work courses and practica and
**b** declare a concentration of IFG (Individual, Family, Group) or POC (Policy, Organization, Community).

Both practicum experiences must be in the declared area of concentration. Practica are located in the Greater Toronto Area.
**7** Candidates for the ***M.S.W. Program with Advanced Standing*** (students entering with a B.S.W. degree with either full-time or part-time status) must indicate on the M.S.W. Program Application Form:
**a** a willingness to participate in any of the practicum areas that they have specific, and
**b** declare a concentration of IFG (Individual, Family, Group) or POC (Policy, Organization, Community); and
**c** indicate a preference for full-time or part-time studies. Practicum interest must be in the declared area of concentration. Practica are located in the Greater Toronto Area.

**Program Requirements: Two-Year M.S.W. Full-time Program**
*(for candidates entering with a B.A. or B.Sc. or equivalent)*
**1** Degree requirements are normally completed within two years. The maximum time limit for completing M.S.W. degree requirements is four years from the date of first registration in the program.
**2** The program of study consists of the equivalent of 20 half-credit courses.
**3** Students take 13 required half-credit courses and a minimum of 4 half-credit course electives over the two-year program.
**4** The practica requirement is equivalent to three half-credit courses. The first year practicum offered in the winter session (January-May) of the first year is equivalent to a half-credit course; the second year practicum (September-April) is equivalent to two half-credit courses.
**5** Students who have been approved to complete a thesis do not take SWK 4503H *Advanced Social Work Research* and carry one less half-credit course elective over the two-year program. The thesis requirement is equivalent to two half-credit courses. This option is open to a limited number of students, subject to availability.
**6** Students are required to be on campus regularly, that is, close enough to participate fully in the university activities associated with the program. Residence and full-time are defined in the SGS General Regulations.

**Program of Study: Two-Year M.S.W. Full-time Program**
*(for candidates entering with a B.A. or B.Sc. or equivalent)*
**1** The two-year M.S.W. program is designed for students with a B.A. or B.Sc. degree or equivalent. Its aim is to prepare students with an advanced level of knowledge and professional competence in a chosen area of social work practice. The program combines the dual purposes of graduate education and professional training. It is believed that a rigorous academic education supports competent and ethical professional practice at an advanced level.
**2** The program consists of full time study over two academic years. Students choose to concentrate in one area of practice, either
**a** IFG – Individual, Family, Group or
**b** POC – Policy, Organization, Community
All students in the two-year program take a number of required courses to ensure that a common core of knowledge is acquired across the two concentrations.
**3** Year One of the program provides a solid foundation in academic knowledge, research skills, and practice competence in social work. In the fall session of the first year, students take required courses in theory, research, and practice. In the winter session of the first year, students begin their first practicum while continuing with their academic courses. Special emphasis is placed on supporting students in integrating theory, practice, and research.
**4** In Year Two of the program, students continue to build an integrated program of study by combining advanced practice courses, elective courses in specialized areas, a more advanced practicum, and advanced practice research. Some students may be approved to complete a M.S.W. thesis. The Faculty supports advanced studies in a wide range of practice areas including child and family, aging,

health; housing; anti-racism, multiculturalism and Native issues.

**5** A variety of educational approaches are used to deliver curriculum content and to provide stimulating and integrative learning experiences. Students participate in regularly scheduled classes in a variety of formats (lectures, group discussions, seminars, experiential learning labs, etc.), a field-based practicum, and research projects.

**Courses of Instruction**

*Two-Year M.S.W. Full-time Program*

***Students in IFG Concentration - Year One*** *of the Two-Year M.S.W. Full-time Program*

SWK 4101H Knowledge and Values: Diversity, Anti-oppression and Social Justice
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 4106H Theoretical Foundations for Social Work Practice with Individuals, Families and Groups
SWK 4501H Social Work Research Methods I – Qualitative Techniques
SWK 4502H Social Work Research Methods II – Quantitative Techniques
SWK 4601H Social Work Practice with Individuals
SWK 4670H Social Work Practice Seminar
SWK 4701H Social Work Practicum I

*Total course load for Year One: 10 half-credit courses*

***Students in IFG Concentration - Year Two*** *of the Two-Year M.S.W. Full-time Program*

Either
SWK 4503H Advanced Social Work Research
or
M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

SWK 4602H Social Work Practice with Groups
SWK 4674H Social Work Practice with Families and Couples
SWK 4702Y Social Work Practicum II (equivalent to 2 half-credit courses)
SWK 4901H Advanced Theories for Direct Social Work Practice

Four Elective Half-Credit Courses
*or*
Three Elective Half-Credit Courses plus the M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

*Total course load for Year Two: 10 half-credit courses*

***Students in POC Concentration - Year One*** *of the Two-Year M.S.W. Full-time Program*

SWK 4101H Knowledge and Values: Diversity, Anti-oppression and Social Justice
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 4106H Theoretical Foundations for Social Work Practice with Individuals, Families and Groups
SWK 4501H Social Work Research Methods I – Qualitative Techniques
SWK 4502H Social Work Research Methods II – Quantitative Techniques
SWK 4653H Social Work Practice with Organizations
SWK 4670H Social Work Practice Seminar
SWK 4701H Social Work Practicum I

*Total course load for Year One: 10 half-credit courses*

***Students in POC Concentration - Year Two*** *of the Two-Year M.S.W. Full-time Program*

Either
SWK 4503H Advanced Social Work Research
or
M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

SWK 4651H Community Social Work Practice
SWK 4662H Social Policy Analysis
Prerequisite: SWK 4102H *Social Policy and Social Welfare in the Canadian Context* or equivalent
SWK 4702Y Social Work Practicum II (equivalent to two half-credit courses)
SWK 4902H Advanced Practice in Policy, Organizations, and Communities

Four Elective Half-Credit Courses
*or*
Three Elective Half-Credit Courses plus the M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

*Total course load for Year Two: 10 half-credit courses*

***Total course load for the Two-Year M.S.W. Full-time Program in either the IFG or POC concentrations: 20 half-credit courses***

**Program Requirements: M.S.W. Program with Advanced Standing**
*(for candidates entering with a B.S.W. degree)*
**1** Students may complete the degree program either full-time or part-time. Students enrolling in the program part-time must meet the same degree requirements and complete the same number of credits as the full time students, although the structure and sequencing of their individual programs of study may vary.
**2** Full-time students normally complete the program over three academic sessions (September to June). Part-time students normally complete requirements within two years. The maximum time limit for completing degree requirements is four years from the date of first registration in the program.
**3** The program of study consists of an equivalent of ten half-credit courses.
**4** Students must take five required half-credit courses and a minimum of three half-credit course electives. Students approved to complete a thesis do not take SWK 4503H *Advanced Social Work Research* and carry one less half-credit course elective in their program. Students choosing this option may require additional time to complete their program. This option is open to a limited number of students, subject to availability.
**5** A practicum is required, equivalent to two half-credit courses. Students' unpaid practicum must be in their area of concentration (IFG or POC). For students enrolled in the full-time program, the practicum is completed from September to April. For students enrolled in the part-time program the practicum is designed to commence as a 16-week block in the Greater Toronto Area starting in April. Exceptions to block summer practicum must be negotiated in advance with the Practicum Office.

**Program of Study: M.S.W. Program with Advanced Standing**
*(for candidates entering with a B.S.W. degree)*
**1** The M.S.W. Program with Advanced Standing is designed for students with a B.S.W. degree. It aims to prepare students with an advanced level of knowledge and professional competence in a chosen area of social work practice. The program combines the dual purposes of graduate education and professional training. It is believed that a rigorous academic education supports competent and ethical professional practice at an advanced level.
**2** Students choose to concentrate in one area of practice, either
**a** IFG – Individual, Family, Group *or*
**b** POC – Policy, Organization, Community.
All students in the M.S.W. Program with Advanced Standing take a number of required courses to ensure that a common core of knowledge is acquired across the two concentrations.
**3** Students build an integrated program of study by combining advanced practice courses, elective courses in specialized areas, a more advanced practicum, and a practice research project or thesis. The Faculty supports advanced studies in a wide range of practice areas, including child and family, aging, health; housing; anti-racism, multiculturalism, and Native issues.
**4** A variety of educational approaches are used to deliver curriculum content and to provide stimulating and integrative learning experiences. Students participate in regularly scheduled classes in a variety of formats (lectures, group discussions, seminars, etc.), a field-based practicum, and research projects. A limited number of students may choose to complete a master's thesis.

**Courses of Instruction**
*M.S.W. Program with Advanced Standing*

***Students in IFG Concentration***
SWK 4501H Social Work Research Methods I: Qualitative Techniques
SWK 4502H Social Work Research Methods II: Quantitative Techniques

SWK 4503H Advanced Social Work Research
*or*
M.S.W. Thesis (equivalent to SWK 4503 plus one half-credit course elective)

SWK 4670H Social Work Practice Seminar
SWK 4702Y Social Work Practicum II (equivalent to 2 half-credit courses)
SWK 4901H Advanced Theories for Direct Social Work Practice

Three half-credit elective courses
*or*
Two half-credit elective courses plus the M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

***Students in POC Concentration***

SWK 4501H Social Work Research Methods I: Qualitative Techniques
SWK 4502H Social Work Research Methods II: Quantitative Techniques

SWK 4503H Advanced Social Work Research
*or*
M.S.W. Thesis (equivalent to SWK 4503 plus one half-credit course elective)

SWK 4670H Social Work Practice Seminar
SWK 4702Y Social Work Practicum II (equivalent to 2 half-credit courses)
SWK 4902H Advanced Practice in Policy, Organizations, and Communities

Three half-credit elective courses
*or*
Two half-credit elective courses plus the M.S.W. Thesis (equivalent to SWK 4503H plus one half-credit course elective)

***Total course load for the M.S.W. Program with Advanced Standing in either the IFG or POC concentrations: 10 half-credit courses***

***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, admissions application materials, or the Faculty Web site www.utoronto.ca/facsocwk.

AGE 2000H Principles of Aging
JPX 1001H Parenting: Multidisciplinary Perspectives/*N. Trocme, Staff*
JPW 2118H Philosophical Foundations of Women's Studies
JTH 3000H Coordinating Seminar in Ethnic and Pluralism Studies
PAS 3700H Multidisciplinary Aspects of Addiction Studies/*M. J. Ashley, Staff*
SWK 4210H Promoting Empowerment: Working at the Margins/*Staff*
SWK 4403H Women and Social Policy in Canada/*S. Neysmith*
SWK 4417H Adolescence: Social Work Challenges and the Role of Social Work/*R. Roberts*
SWK 4420H Human Rights and Social Justice/*Staff*
SWK 4422H Social Housing and Homelessness/*J. D. Hulchanski*
SWK 4506H Applied Quantitative Data Analysis
SWK 4603H Advanced Social Work Practice with Groups/*Staff*
Prerequisite: SWK 4602H or equivalent
SWK 4604H Policy and Practice in Mental Health/*Staff*
SWK 4608H Advanced Social Work Practice with Families /*S. Stern, E. King*
Prerequisite: SWK 4602H or equivalent
SWK 4609H Sexuality, Sexual Diversity and Social Work Practice/*Staff*
SWK 4610H Advanced Social Work Practice with Couples/*M. C. Bogo, R. J. MacFadden*
Prerequisite: SWK 4674H or equivalent
SWK 4613H Social Work Practice with the Aged/*Staff*
SWK 4616H Drug Dependencies: Interventive Approaches/*Staff*
SWK 4617H Cross-Cultural Social Work Practice/*A. K. T. Tsang, K. Richard*
SWK 4619H Family Mediation: Theory and Practice/*H. H. Irving*
SWK 4620H Assessment of Children, and Adolescents/*Staff*
SWK 4622H Social Work Policy and Practice: Health, Illness, and Disability/ *Staff*
SWK 4623H Violence in Families: Multilevel Intervention in Interdisciplinary Practice/*R. Roberts*
SWK 4624H Feminist Social Work Practice/ *Staff*
SWK 4658H Social Work with Immigrants and Refugees/*U. G. George, Staff*
SWK 4663H Social Planning Approaches and Issues/*J. D. Hulchanski*
SWK 4664H Administrative/Managerial Practice in Social Work/*P. L. McDonald*
SWK 4667H Information Technology in Professional Social Work Practice/*R. MacFadden*
SWK 4668H Welfare of Children: Policy and Practice/*N. Trocme*

***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(s) 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

## DEGREE OF DOCTOR OF PHILOSOPHY

### Admission Requirements
Candidates must have:
**1** a degree of Master of Social Work or an equivalent master's degree with at least B+ standing from an accredited program in a recognized university;
**2** competency in basic statistical methods at an introductory level (an introductory statistics course is offered in the first session of the program to ensure that students meet this prerequisite;
**3** educational and professional experience that will indicate a capacity to undertake research-oriented postgraduate work.
**4** Candidates must show evidence of facility in the English language (See SGS General Regulations).

Candidates are accepted for admission based on an assessment of their ability to complete the academic requirements of the program. Experience and professional achievements are considered, although greatest weight is placed on demonstrated academic performance.

### Program Requirements
The Faculty of Social Work Doctor of Philosophy program is structured to support completion of all degree requirements within a period of four years. The program is available on a full-time basis only.
**1** Candidates for the degree of Doctor of Philosophy shall normally complete at least ten half-credit courses, or their equivalent, within the first two years, including:
**a** Required research courses:
SWK 6301H Intermediate Statistics and Data Analysis (all incoming doctoral candidates are required to take SWK 4506H as a prerequisite or pass an equivalent competency exam with a grade of at least B+)
SWK 6302H Epistemology and Social Work Research
SWK 6308Y Designing and Implementing Social Work Research
**Note:** Candidates who demonstrate competency may be exempted from the above required research courses. The course instructor will determine competency. Candidates will substitute an alternate elective course for each exempted course. Transcripts will note exemptions from the required courses.
**b** Five graduate elective half-credit courses are chosen by the candidate, at least one of which is taken at the Faculty of Social Work, and at least one of which is taken in another graduate unit at the University of Toronto.
**c** The half-credit course SWK 7000H *Doctoral Thesis Seminar (Credit/No Credit)* is required during the fall session of the second year of the program.
**2** Following completion of course work, candidates are required to satisfactorily complete a comprehensive paper.
**3** Following completion of the comprehensive paper, candidates propose and complete a thesis which shall constitute a distinct contribution to knowledge in the field of social work. The thesis must be based on research conducted while registered for the Ph.D. program. Copies of the completed thesis must be submitted to the external appraiser at least six weeks, and preferably earlier, in advance of the candidate's final oral examination. The candidate must successfully defend the thesis at a final oral examination. Detailed information regarding the final oral examination and publication of the thesis may be found in the Degree Regulations section of this calendar.
Time Frame: Candidates are encouraged to complete and obtain Thesis Committee approval of their thesis proposal by August of the second year of the program. The research, writing, and oral examination of the thesis is typically completed by the end of the fourth year of the program.
**4** 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. The Faculty is responsible for ensuring that an acceptable certificate of language competence is deposited with the School of Graduate Studies.
**5** Candidates are expected to be available on a full-time basis during the first two years (six consecutive sessions) of the program in order to complete the equivalent of ten half-credit courses. During subsequent years candidates may elect to be off campus to conduct their research and to write the thesis. Candidates are required to register for each successive fall

session on a full-time basis following their first session of registration unless granted a leave of absence. The minimum period of registration in each academic year is three consecutive sessions. Candidates who elect to be off campus in the third and subsequent years of the program must be available on campus for regular meetings with their thesis committee.
**6** Candidates must complete the requirements for the degree within six years following admission to the program.

**Courses of Instruction**
The following courses are given in the doctoral program. Some courses are given in conjunction with the M.S.W. curriculum. Course offerings in any year depend on student interest and Faculty resources.

| | |
|---|---|
| SWK 6005H | Theoretical Foundations of Social Work/*Staff* |
| SWK 6006H | Theory and Practice of Teaching Social Work/*M. Bogo* |
| SWK 6101H | Critical Evaluation of Social Work Practice Theories/*Staff* |
| SWK 6106H | Family Mediation: Research and Practice/*H. H. Irving* |
| SWK 6203H | Comparative Social Welfare Systems/*Staff* |
| SWK 6205H | Social Planning in Social Welfare/*J. D. Hulchanski* |
| SWK 6208H | Advanced Principles of Social Policy Analysis/*E. S. Lightman* |
| SWK 6301H | Intermediate Statistics and Data Analysis/*E. Fuller-Thomson* |
| SWK 6302H | Epistemology and Social Work Research/*P. L. McDonald* |
| SWK 6303H | Evaluation Research and the Assessment of Social Programs/*Staff* |
| SWK 6308Y | Designing and Implementing Social Work Research/*Staff* |
| SWK 6309H | Clinical Research Design Methods/*Staff* |
| SWK 6401H | Sociocultural Issues in Social Work/*A. K. T. Tsang* |
| SWK 6406H | Housing Theory and Research Methods/*J. D. Hulchanski* |
| SWK 7000H | Doctoral Thesis Seminar (Credit/No Credit)/*A. S. Chambon* |

These courses are designed to provide seminars or tutorials according to 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 |

## INTERDISCIPLINARY PROGRAMS

**Combined J.D./M.S.W. Program**
For students who wish to practice in the areas where law and social work interact (for example, child welfare, juvenile and criminal justice, dispute resolution, mental health and family law) this combined interdisciplinary program leads to both the Juris Doctor and Master of Social Work degrees.

The program allows students to complete the two degrees in four years, rather than the five it would take to pursue the two independently. Students who enter with a B.S.W. will be given advanced standing. Admission to the combined program is conditional upon the applicant meeting the admission requirements of each of the faculties.

**Combined M.H.Sc./M.S.W. Program**
With the community focus in health care, there is a greater need for linkages between health and social services. The new interdisciplinary Program of Social Work and Health Administration provides background for students wishing to move into administrative leadership in social work and health organizations. The program allows students to complete both degrees in three years, rather than the four it would take to pursue the two independently. Students entering with a B.S.W. degree will be given advanced standing. Admission to the combined program is conditional upon the applicant meeting he admission requirements of each of the Faculties.

**Aging and the Life Course (Collaborative Program)**
This program prepares students for specialization in the field of aging, a field that includes individual human aging and population aging, with an emphasis on viewing aging issues within the perspective of the life course.

This program is open to both M.S.W. and Ph.D. students. For further details, consult the Aging and the Life Course (Collaborative Program) entry in this calendar.

**Addiction Studies (Collaborative Program)**
The purpose of this program is to develop and integrate graduate training in the multidisciplinary field of addictions, an area that includes the use and abuse of substances, as well as gambling and other addictive behaviours.

This program is open to both M.S.W. and Ph.D. students. For further details, consult the Addiction Studies (Collaborative Program) entry in this calendar.

**Ethnic and Pluralism Studies (Collaborative Program)**
This program bridges perspectives of anthropology, economics, geography, history, industrial relations, nursing, political science, sociology, social work, and religion to provide an in-depth understanding of ethnic differences and processes among groups at the micro and macro levels.

This program is open to both M.S.W. and Ph.D. students. For further details, see the Ethnic and Pluralism Studies (Collaborative Program) entry in this calendar.

**Women's Studies (Collaborative Program)**
This program is designed to create and support an integrated, interdisciplinary research community for students and faculty to collaborate in the creation and critical development of new knowledge and methodologies emerging in the field of women's studies.

This program is open to both M.S.W. and Ph.D. students. For further details, see the Women's Studies (Collaborative Program) entry in this calendar.

# Sociology SOC

## Graduate Faculty

### Full Members

B. Baldus, MA, DrScPol
D. M. Behrens, HBA, MS, PhD
M. Blute, BA, MA, PhD
Y. M. Bodemann, MA, PhD
M. Boyd, BA, MA, PhD, FRSC, Canada Research Chair
D. H. Brownfield, PhD
J. M. Bryant, BA, MA, PhD
R. J. Brym, BA, MA, PhD
L. Calzavara, BA, MA, PhD
M. Eichler, MA, LLD, PhD
B. H. Erickson, BA, MA, PhD
P. G. Erickson, MA, PhD
E. W.-C. Fong, BA, MA, PhD
B. J. Fox, AB, PhD
H. Friedmann, AB, MA, PhD
R. I. Gartner, BA, MS, PhD
A. R. Gillis, BA, MA, PhD
J. Hagan, BA, MA, PhD, FRSC, University Professor
M. F. Hammond, BA, MA, MPh, PhD
J. A. Hannigan, BA, MA, PhD
E. B. Harvey, BA, MA, PhD
N. L. Howell, BA, PhD
P.-C. Hsiung, BA, MA, PhD
C. L. Jones, BA, MA, PhD
***(Associate Chair, Graduate Studies)***
J. B. Kervin, BA, PhD
R. Mackay, BA, MA, PhD
W. J. Magee, BA, MS, PhD
D. W. Magill, BA, MA, PhD
V. W. Marshall, BA, MA, PhD
W. Michelson, AB, AM, PhD, FRSC, S.D. Clark Chair in Sociology
J. Myles, BA, BPh, BTh, MA, PhD, Canada Research Chair
R. O'Toole, BA, MA, PhD
J. G. Reitz, BS, PhD, FRSC, Robert F. Harney Professor of Ethnic Immigration and Pluralism Studies
R. Roman, BA, MA, PhD
J. W. Salaff, BA, MA, PhD
A. Sev'er, BA, MA, PhD
E. W. Single, BA, PhD
A. M. Sorenson, BA, MA, PhD
J. Tanner, BSc, MA, PhD
L. J. Tepperman, BA, MA, PhD
***(Chair)***
S. B. Ungar, BA, MA, PhD
J. W. P. Veugelers, BA, MA, PhD
B. Wellman, BA, MA, PhD
S. Welsh, BA, MA, PhD
B. Wheaton, BA, MA, PhD

### Members Emeriti

R. Breton, MA, PhD, FRSC(SM)
D. F. Campbell, BA, MA, PhD
W. W. Isajiw, BA, MA, PhD
E. T. Silva, BA, MA, PhD
J. H. Simpson, BA, BD, MTh, PhD
M. W. Spencer, MA, PhD
I. M. Zeitlin, PhD

### Associate Members

S. Abraham, BA, MA, PhD
S. S. Baumann, BA, MA, PhD
B. M. Berry, BS, PhD
K. Hannah-Moffat, BA, MA, PhD
J. Hermer, BA, MA, DPhil
P. Landolt, BA, MA, PhD
I. Peng, BA, PhD
R. A. Silverman, PhD
J. Taylor, BA, PhD
W. Zhang, BS, MA, PhD

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*Web:* www.chass.utoronto.ca/sociology

Students are admitted under the general regulations of the School of Graduate Studies. Normally an overall B+ average in each of the last two years of post-secondary education qualifies an applicant for consideration. However, the admission criteria are also based on other indicators of superior qualifications such as letters of recommendation and the paper submitted. The choice of courses in all programs must be approved by the Department. Applicants must submit the following directly to the Department:

**1** two letters of reference from instructors or research supervisors;
**2** one paper, and a summary of it, which the student feels represents his or her best work;
**3** a one-page typed statement of interest indicating research interests and reasons for applying to study Sociology at the University of Toronto.

An average of at least B+ is required in order to be eligible to continue into 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.

**Collaborative Programs**
The Department of Sociology is involved in the following collaborative programs. Consult separate entries in this calendar for details.
Addiction Studies
Aging and the Life Course
Asia-Pacific Studies
Environmental Studies
Ethnic and Pluralism Studies
International Relations
Knowledge Media Design
Women's Studies

**Degree of Master of Arts**
The M.A. degree may be pursued on a full-time or part-time basis. Course requirements must be completed within five years from date of entry.

Candidates for the master's degree can complete the program in one of two ways: by completing 6 half-courses and a research paper within 12 months, or by completing 8 half-courses within 9 months. A full-course counts as two half-courses. All master's students must take one half-course in Classical Sociological Theory (SOC 6001H) and one half-course in Field Methods (SOC 6303H). Students who choose the course-work M.A. must take one half-course in Social Statistics (SOC 6302H). Students who choose the research paper route must take one half-course in Survey Methods (SOC 6301H).

To be eligible for the minimum program, students must have taken at least the equivalent of five full-year courses in Sociology and have a four-year B.A. or its equivalent. Students are also expected to have acquired basic research and statistical skills. Students whose preparation is insufficient will be required to take additional courses. Students must have a B average to be recommended for the M.A. degree.

**Degree of Doctor of Philosophy**
Students are usually admitted to the Ph.D. program after completing the M.A. or its equivalent, with at least an A- standing. All students must demonstrate that their M.A., or equivalent, includes course work equivalent to Classical Social Theory, Social Statistics, and Field Methods. Some students may be required to take prescribed additional courses.

The Department may recommend admission directly after completion of a four year B.A. degree. Direct entry of this kind will only be recommended for outstanding students who have provided a clear and detailed plan for thesis research. Students who enter the doctoral program directly from a four year B.A. will be required to take the three half-courses that are required at the M.A. level in addition to the standard Ph.D. requirements.

The minimal requirements for this degree are listed below.
**1** Two years of residence.
**2** Eight half-year courses. These must include The Logic of Social Inquiry (SOC 6710H), Contemporary Sociological Theory (SOC 6101H), Intermediate Data Analysis (SOC 6707H), and a two-session research practicum, if not already completed at the graduate level. Previous completion of these courses will not reduce the eight half-course requirement.
**3** Two comprehensives. For details see the Department's *Graduate Handbook and Manual*. These comprehensives must be completed by the end of the second year of residence.
**4** Preparation of an original thesis, under the supervision of a committee of the staff, and its oral defence.
**5** A reading knowledge of French or German or another language approved by the Department.

***Checkpoints for Doctoral Students***

| Checkpoint | Desirable Completion | Acceptable Completion |
|---|---|---|
| Field of thesis research and name of supervisor submitted | 6 months | 9 months |
| Eight graduate half-courses completed | 9 months | 15 months |
| Working thesis topic submitted | 9 months | 12 months |
| Both comprehensives completed | 18 months | 2 years |
| Research Proposal, Ethical Review, and Language Examination | 18 months | 2.5 years |
| Thesis Prospectus accepted by the supervisor | 2.5 years | 3 years |
| Final Oral Examination | 4 years | 5 years |

This model timetable is necessarily a rough one and may be altered to take account of leave granted for special personal circumstances. It would be extended by up to nine months for students who were required to make up required M.A. courses in Classical Social Theory, Field Methods, or Statistics. The checkpoints outlined below are feasible, and while there are no automatic penalties levied on a student who fails to meet them, inability to keep pace raises questions about the student's suitability for the program.

**Courses of Instruction**
For details on course offerings check with departmental Graduate Office.

***Social Inequality***
SOC 6009H Ethnicity I
SOC 6109H Ethnicity II
SOC 6012H Sociology of Work I
SOC 6112H Sociology of Work II
SOC 6019H Gender Relations I
SOC 6119H Gender Relations II
SOC 6125H Theories of Social Change

***Social Organization***
SOC 6010H Political Sociology I
SOC 6110H Political Sociology II
SOC 6013H Social Inequality I
SOC 6113H Social Inequality II
SOC 6017H Sociology of Families I
SOC 6117H Sociology of Families II
SOC 6018H Sociology of Religion I
SOC 6118H Sociology of Religion II
SOC 6124H The Life Course in Modern Society
SOC 6214H Sociology of Urbanization
SOC 6314H Community
SOC 6414H Urban Organization
SOC 6514H Social Ecology

***Social Order***
CRI 3140H Special Topics in Criminology/ *R. I. Gartner* (course enrolment limited to 20 students)
SOC 6006H Deviance I
SOC 6106H Deviance II
SOC 6206H The Sociology of Deviance and Control
SOC 6506H Design and Analysis of Research on Deviance and Control
SOC 6606H Evaluation of Selected Control Policies (also LAW 256H)
SOC 6023H Sociology of Mental Health I
SOC 6122H Sociology of Mental Health II
SOC 6123H Sociology of Addiction

***Modes of Social Inquiry***
JPD 2037Y Post-Modern and Contemporary Thought
SOC 6001H Sociological Theory I
SOC 6101H Sociological Theory II
SOC 6201H Sociological Theory III
SOC 6008H Network Analysis I
SOC 6108H Network Analysis II
SOC 6016H Social Demography I
SOC 6116H Social Demography II
SOC 6021Y Sociology and the Policy Process in Canada
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

***Social and Technological Change***
SOC 6005H Social Change and Development I
SOC 6105H Social Change and Development II
SOC 6014H Environmental Sociology I
SOC 6114H Environmental Sociology II
SOC 6312H Social Aspects of Technology and Work

**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

# Sociology and Equity Studies in Education SES

## Graduate Faculty

### Full Members

S. Acker, BA, MA, PhD
N. Bélanger, BA, MA, PhD
K. Bickmore, BA, MA, PhD
K. Dehli, BA, MA, PhD
G. J. S. Dei, BA, MA, PhD
***(Chair)***
M. Eichler, MA, LLD, PhD
R. B. Folson, PhD
M. G. Fullan, BA, MA, PhD
E. B. Harvey, BA, MA, PhD
M. Heller, BA, MA, PhD
***(Associate Chair)***
P.-C. Hsiung, BA, MA, PhD
J. Iseke-Barnes, PhD
H. Lenskyj, BA, MA, PhD
D. W. Livingstone, BA, PhD
C. P. Olson, BA, MA
J. J. Quarter, BA, MA, PhD
S. Razack, BA, MA, PhD
K. Rockhill, BS, PhD
D. A. Trotz, BA, MPhil, PhD

### Members Emeriti

R. R. Pierson, PhD
D. E. Smith, PhD

### Associate Members

K. Church, BA, MA, PhD
D. Farmer, BA, MA, PhD
M. Kassam, BA, MA, PhD
S. Nestel, BA, MA, PhD
A. Okolie, BSc, MSc, PhD
P. Sawchuk, BSc, BEd, MA, PhD
R. Walcott, CRC, PhD
N. N. Wane, PhD

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*SESE Web*:
www.oise.utoronto.ca/depts/sese
*SESE Bulletin on Web:*
www.oise.utoronto.ca/Bulletin/sese.html

## General Information

For general information, consult the Sociology and Equity Studies section of the *OISE/UT Bulletin* or the Web sites listed above.

## Department Foci

The Department of Sociology and Equity Studies in Education offers a full range of programs leading to M.Ed., M.A., Ed.D., and Ph.D. degrees. These programs offer students preparation in sociology in education with an emphasis on equity issues. Five areas of concentration are described below.

Faculty and student research and interests represent a variety of approaches to sociology and equity studies in education. The current composition of the department provides particular opportunities for students who may wish to focus their activities in the areas listed below, as well as in the interdisciplinary and interdepartmental foci and collaborative programs. Students are not restricted to a single focus/specialization when selecting courses.

### 1 *Aboriginal and Indigenous Studies in Education*

This focus addresses current issues, trends, perspectives, and models of Aboriginal and Indigenous education through historical, cultural, spiritual, social and political philosophies and themes. Specific foci include examination of Aboriginal, Indigenous, and marginalized knowledge in global contexts and pedagogical implications for educational change; and roles of schools, media, institutions, governments and historical and contemporary policy in producing conditions of constraint, images of Indigenous peoples, social and class differences, dominance, control politics, and social inequalities with regard to Aboriginal and Indigenous peoples.

### 2 *Critical Anti-Racism Studies*

Courses listed in this program provide students with an integrative view of social difference (race, class, gender, disability, and sexuality) and a critical reading of multiple social oppressions revealed in different sites and sources (schools, universities, local communities, media, law, and cultural production). The Centre for Integrative Anti-Racism Studies (CIARS) brings together faculty and students whose research interests and political commitments are in anti-racism. It provides a supportive research environment, linking communities of colour, marginalised communities, and the university in a pursuit of social justice.

**3 *Critical Pedagogy and Cultural Studies***
Critical inquiry into the roles played by educational institutions in producing and maintaining cultures, symbolic dominance, and social inequalities; analyses of alternative teaching materials and pedagogies intended to address and transform domination and inequality.

**4 *Feminist Studies and Gender Relations in Education***
Gender studies in the family, school, and workforce; feminist practice; gender, class, race, language, and cultural and biological reproduction; social history of women and women's education; feminism and feminist historiography. Note that other courses offered by feminist faculty, but not listed in this focus, may be taught from a feminist perspective.

**5 *Learning, Work, and Change***
This focus is devoted to teaching and research about the interrelations of organized/informal learning, paid/unpaid work, societal change processes, and the roles of educators in improving these relations. Courses offer theories and methods for understanding political, economic and ideological forces associated with educational and workplace change. Some representative themes include influences of social class, gender, ethnicity and generation on learning practices and work opportunities; impacts of technological changes on labour markets, labour processes and training programs; school and community relations; teachers' work and educational innovation; and problems of underemployment and the future of work. This focus is closely related to the interdepartmental research focus in Learning and Work.

The Department is also involved in interdepartmental and interdisciplinary research foci, as well as collaborative programs:

**1 *Critical Pedagogy and Cultural Studies***

**2 *Learning and Work***
(For more details on **1** and **2** above see the *OISE/UT Bulletin.)*

**3 *Études franco-ontariennes en français***
Le Département de sociologie et d'études de l'équité en éducation participe à un programme de cours à distance par ordinateur intitulé "Études franco-ontariennes en éducation" offert par le Département de curriculum, d'enseignement et d'apprentissage, qui porte sur les réalités sociales et scolaires des communautés fancophones et dont la langue d'enseignement est le français. Ce programme multidisciplinaire mène au diplôme de M.Ed. Des cours sur place sont également offerts. Vous trouverez la description en français des cours de sociologie qui font partie de ce programme dans la liste qui suit.

**4 *Gender Equity in Education***
This interdepartmental specialization focuses on the practical and professional relevance of gender equity issues for teachers and educational administrators. It is taken as part of the student's main program within the Department of Sociology and Equity Studies in Education. The Centre of Women's Studies in Education (CWSE) coordinates the specialization. Contact Caralee Price (cprice@oise.utoronto.ca) for more information.

**5 *Collaborative Environmental Studies Program***
Master's level students in the Department of Sociology and Equity Studies in Education can participate in the Collaborative Master of Education in Environmental Studies program. For complete details on the program, consult the relevant section in the *OISE/UT Bulletin*.

**6 *Comparative, International, and Development Education***
This focus is fully described in the section on the Collaborative Graduate Programs in the *OISE/UT Bulletin*.

**7 *Collaborative Program in Women's Studies***
The Collaborative Graduate Program in Women's Studies involves most of the feminist faculty in SESE. A separate brochure is available and information is on the Web at www.utoronto.ca/iwsgs/.

**Admission Requirements**
The Department welcomes applicants with diverse but relevant backgrounds. M.Ed. and Ed.D. applicants must have the equivalent of 12 months' professional experience. Ph.D. candidates who are admitted without sufficient previous study in sociology or a cognate discipline may be required to take a longer program, as will M.A. candidates without a four-year bachelor's degree.

In addition to the general requirements for admission as outlined in the Minimum Admission, Program, and Degree Requirements section, applicants are required to submit the following:

**1** 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;
**2** two letters of reference, preferably from university instructors with whom the applicant has studied or worked;
**3** at least one sample of written work in the social sciences.

Incomplete applications may be subject to processing delays or rejection.

**Program Requirements**

The programs leading to M.Ed., M.A., Ed.D., or Ph.D. degrees may be undertaken as follows. The M.Ed. degree may be pursued on a full-time or part-time basis under either Option II (eight half-courses and a Major Research Paper (MRP)) or under Option III (six half-courses and a thesis). The M.A. degree may be pursued full time or part time and requires a thesis. Both the Ed.D. and the Ph.D. require a dissertation, but the Ph.D. requires, in addition, a comprehensive examination. Note that although Ed.D. students may begin their studies on a part-time basis, they must register for a minimum of one academic year of full-time registration (two consecutive sessions, not including summer) on-campus study and then maintain continuous registration full-time subsequently until all degree requirements are completed. Ph.D. students must maintain full-time status throughout their degree program.

The Department offers courses off campus as well as in distance mode to serve students in localities outside Toronto. Off-campus students typically complete their program by enrolling in courses on campus during the summer and/or by enrolling as full-time students during the regular academic year. Information about off-campus and on-campus courses to be offered in the Summer and Winter Sessions will be noted in the “Graduate Studies Course Schedule”, available from the Registrar’s Office, OISE/UT, in the Winter Session.

Course outlines are available for consultation in the Department. To help students articulate and focus their intellectual concerns, the Department offers:

- a designated faculty advisor for each student (assigned to the student upon admission)
- a supervisor (to be selected by the student with consent of the supervisor) for theses, dissertations and MRPs
- independent study and research courses
- access to related courses in other graduate departments
- course outlines and evaluations
- a speakers series
- the Sociology and Equity Studies Handbook
- notices and information sent by e-mail through a departmental conference
- workshops on particular topics such as writing thesis proposals.

The Department is organized as a constitutional democracy with a General Assembly and standing committees which provide for policy and decision-making in departmental programs, selection of incoming students, etc. Our constitution is based on one person/one vote, and staff, faculty, and registered students in the Department have voting rights and are welcome to participate in the governance of the Department.

**Courses of Instruction**

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/*M. Heller*
SES 1900H Introduction to Sociology in Education/*P. Olson*
SES 1901H Basic Concepts in Sociology in Education/*Staff*
SES 1902H Introductory Sociological Research Methods in Education/*P. Olson*
SES 1903H Sociological Survey Research Methods in Education/*P. Olson*
SES 1904H Sociological Theory in Education/*Staff*
SES 1905H Qualitative Approaches to Sociological Research in Education/*S. Acker*
SES 1907H Sociology of Minority Groups, Multiculturalism, and Policy-Making in Education/*Staff*
SES 1907H L’éducation multilingue et multiculturelle: l’analyse sociologique/*M. Heller*
SES 1909H Eco-Sociology/*M. Eichler*
SES 1910H The Social Organization of Knowledge/*Staff*
SES 1911H Sociologie de l'•éducation spécialisée/*N. Bélanger*
SES 1912H Foucault and Research in Education: Discourse, Power and the Subject/*K. Dehli*
SES 1913H SESE Thesis Students' Seminar (CR/NCR)/*H. Lenskyj*
SES 1914H Contemporary Sociological Theory in Education/*M. Kassam, Staff*
SES 1920H Sociology of Minority Groups and Equity in Education/*Staff*

(CR/NCR) Credit/No Credit

SES 1921Y The Principles of Anti-Racism Education/*G. J. S. Dei*
SES 1922H Sociology of Race and Ethnicity/*G. J. S. Dei*
SES 1923H Racism, Law, and Radical Education/*S.H. Razack*
SES 1924H Modernization, Development, and Education in African Contexts/*G. J. S. Dei*
SES 1925H Indigenous Knowledge and Decolonization: Pedagogical Implications/*G. J. S. Dei*
SES 1926H Race, Space and Citizenship: Issues for Educators/*S. Razack*
SES 1927H Globalization-Migration-Integration: Race and Gender Relations/*R. Baaba Folson*
SES 1950H Student Deviance, Resistance, and Educational Transformation/*Staff*
SES 1951H L'École et la communauté/*Staff*
SES 1951H The School and the Community/*N. Bélanger*
SES 1952H Language, Culture, and Education/*M. Heller*
SES 1952H Langue, culture et éducation/*M. Heller*
SES 1953H Teaching Conflict and Conflict Resolution: Politics and Practice/*K. Bickmore*
SES 1954H Marginality and the Politics of Resistance/*S. H. Razack*
SES 1956H Social Relations of Cultural Production in Education/*R. Walcott*
SES 1957H Theorizing Disability/*Staff*
SES 1958H Cultural Narratives in Cyberspace/*J. Iseke-Barnes*
SES 1981H Feminist Scholarship and Education/*Staff*
SES 1981H L'éducation et la sociologie de la femme et des rapports entre les sexes/*Staff*
SES 1982H Women, Diversity, and the Educational System/*S. Acker, H. Lenskyj*
SES 1983H Gender, Race and Historical Sociology/*Staff*
SES 1984H Non-Sexist Approaches to Stratification/*M. Eichler*
SES 1985H Women's Learning, Women's Health Movements, and the Health Professions/*H. Lenskyj*
SES 1988H Diversity and Social Justice Issues in Physical Education, Recreation and Sport/*H. Lenskyj*
SES 1989H Black Feminist Thought/*N. Wane*
SES 2910H Changes in Families and Policy Consequences for Government and Education/*M. Eichler*
SES 2912H Teacher's Work: Classrooms, Cultures and Change/*S. Acker*
SES 2913H Policy Research and Educational Systems/*E. B. Harvey*
SES 2914H Education, Gender Relations, and Masculinity/*Staff*
SES 2915H Managing Educational and Employment Diversity/*E. B. Harvey*
SES 2940H Rethinking Marxism and Education/*D. W. Livingstone*
SES 2941H Social Stratification and Education/*D. W. Livingstone*
SES 2942H Education and Work/*D. W. Livingstone*
SES 2970H Countering Myths about Aboriginal People through Multiple Medias/*J. Iseke-Barnes*
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/*Staff*

***Doctoral Level***

SES 3900H Advanced Issues in Sociological Research Methods in Education/*Staff*
SES 3901H Research Seminar: Theoretical and Methodological Problems in Advanced Historical Sociological Research in Education/*R. R. Pierson*
SES 3910H Advanced Seminar on Race and Anti-Racism Research Methodology in Education/*G. J. S. Dei*
SES 3912H Race and Knowledge Production: Issues in Research/*S. Razack*
SES 3913H En/Coding Domination: Theorizing Power Relations Based on Race, Gender, Class and Sexuality/*R. B. Folson*
SES 3914H Anti-Colonial Thought and Pedagogical Challenges/*G. J. S. Dei*
SES 3920Y The Politics of Representation and Pedagogies of 'Difference'/*Staff*
SES 3921H Language and Social Difference in Education: Comparative Perspectives/*M. Heller*
SES 3922H Analyzing Classroom Discourse/*M. Heller*
SES 3930H Advanced Seminar on Feminist Methodology and Education/*M. Eichler*

SES 3931H Feminism and Poststructuralism in Education/*K. Dehli*
SES 3932H Contemporary Perspectives on Women and Higher Education/ *S. Acker*
SES 3942H Innovations in Education: A Comparative Analysis/ *M. P. Farrell*
SES 3943H Sociology of State Formation and Genealogies of Government/ *K. Dehli*
SES 3944H Language and Gender in Education/*M. Heller*
SES 3950H Comparative Societies: Economic Change, the State, and Schooling/*D. W. Livingstone*
SES 3951H Political Economy, Cultural Forms and the Learning Society/*D. W. Livingstone*
SES 3952H Sexism, Racism, Colonialism: Pedagogical Implications/*D. A. Trotz*
SES 3998H Individual Reading and Research in Sociology and Equity Studies in Education: Doctoral Level/ *Staff*
SES 3999H Special Topics in Advanced Sociological Research in Education/*Staff*

# Software Engineering (Collaborative Program)

***For advice, contact***
Dr. M. Stumm
Sandford Fleming Building
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Canada
M5S 3G4
*Telephone:* (416) 978-3226
*Fax:* (416) 971-2326
*E-mail:* stumm@eecg.utoronto.ca

***For application forms, contact***
ConGESE Office
Sandford Fleming Building
Room 3304, 10 King's College Road
University of Toronto
Toronto, Ontario
Canada
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*Telephone:* (416) 978-8762
*Fax:* (416) 978-1931
*E-mail:* grad-inq@cdf.utoronto.ca

***For more information, see***
*Web:* congese.on.ca
***or contact***
Dr. Frank Tompa
Director
ConGESE
Computer Science Department
University of Waterloo
Waterloo, Ontario
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*E-mail:* congese@cs.utoronto.ca

Software engineering is a collection of principles, models, methods, and techniques for the development, maintenance, evolution, and reuse of software that meets the functional, performance, and quality requirements in an economic and competitive manner.

The collaborative program in Software Engineering is offered as part of the Consortium for Graduate Education in Software Engineering (ConGESE). ConGESE is a cooperative effort between ten departments in seven Ontario Universities (Carleton, Ottawa, Queen's, Toronto, Waterloo, Western, and York) and several industry partners. The two collaborating departments at the University of Toronto are Electrical and Computer Engineering (ECE) and Computer Science (CSC). This part-time collaborative program is specially structured for software professionals currently working in the field. The courses are commonly offered on-site with co-operating industrial sponsors and are designed to fit into the working schedule of professionals who might otherwise find it difficult to attend regular, on-campus courses.

**Admission Procedures and Requirements**
Applications must be made to one of the participating universities. At the University of Toronto, applicants must be accepted into one of the collaborating graduate units (CSC or ECE) and are expected to meet the home graduate unit's admission requirements in addition to a standing equivalent of B+ in the final year of a four-year University of Toronto bachelor's degree program.

**Program Requirements**
After completing the degree requirements for the home graduate unit and the collaborative program, students will graduate with the existing degree designation used for their department, with the additional notation "specialization in software engineering".

***Degree of Master of Science (specialization in software engineering)***
The M.Sc. program in the Department of Computer Science requires five graduate-level half-courses satisfying a breadth requirement plus a thesis (equivalent to four half-courses).

***Degree of Master of Engineering (specialization in software engineering)***
The M.Eng. program in the Department of Electrical and Computer Engineering requires nine graduate-level half-courses, satisfying a breadth requirement, or a project in lieu of three half-courses.

**Program Structure**
Each course will require about 36 hours of classroom time, plus about twice that much time reviewing new material and doing assignments. Various formats have been used for the 36 hours, including
- 12 weekly sessions of 3 hours each or
- 6 biweekly sessions of 6 hours each or
- 6 consecutive 6-hour days.

The format is normally negotiated between the instructor and the class. The thesis or project will be written under the direction of an assigned supervisor.

# South Asian Studies SAS

## Graduate Faculty

### Full Members

B. Cossman, BA, LLB, LLM/Law
R. Birla, BA, MA, MPhil, PhD/History
A. Dhand, BA, MA, PhD/Religion
K. Goonewardena, BSc, MPI, PhD/Geography
C. Kanaganayakam, BA, PhD/English
S. Kant, BE, MA, PhD/Forestry
M. Kasturi, BA, MPhil, MA, PhD/History
J. R. Kippen, BA, PhD/Music
C. T. McIntire, BA, MA, MDiv, PhD/Religion
S. Mojab, MEd, PhD/Adult Education, Community Development & Counselling Psychology
L. C. D. C. Priestley, BA, AM, MA, MPhil, PhD/East Asian Studies
K. N. Rankin, BA, MRP, PhD/Geography
A. G. Rubinoff, BA, MA, PhD/Political Science

### Members Emeriti

N. K. Choudhry, BA, MS, PhD/Economics
M. Israel, BA, MA, PhD/History
J. T. O'Connell, BA, MA, PhD/Religion
W. G. Oxtoby, BA, MA, PhD/Religion
N. K. Wagle, BA, MA, PhD/History
D. B. Waterhouse, BA, MA, LRAM, FRSC/East Asian Studies

### Associate Members

H. Miller, BA, PhD/Anthropology

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***There will be no new admissions to the Master of Arts program in South Asian Studies as of September, 2001.***

The University is repositioning studies in the area of South Asia, including plans to expand the focus of the current South Asian Studies Collaborative Program. The Centre for South Asian Studies continues to serve as a major research unit for South Asian Studies in Canada.

The Centre continues to be the administrative home for the graduate South Asian Studies Collaborative Program. Please consult the separate entry in this calendar. Contact the Centre about ways to pursue your academic interests, including both master's and Ph.D. studies, through the Collaborative Program.

## Introduction

The Centre for South Asian Studies, which is interdisciplinary and interdepartmental, provides the opportunity for graduate work in both classical and modern studies of India, Pakistan, Bangladesh, Sri Lanka, and Nepal.

Students are encouraged to develop a broad acquaintance with the range of South Asian culture. However, each student must identify a precise subject for specialized research. Individual offers of admission shall specify a core discipline.

## Degree of Master of Arts

### *Admission Requirements*

Applicants to the M.A. program must have a University of Toronto B.A. degree with mid-B standing or better, including at least six full courses in South Asian subjects or the equivalent with at least a B+ average.

Applicants must submit to the Centre a statement of purpose of approximately 200 words identifying the focus of their interest and detailing their aims in graduate study. Three letters of reference are required from scholars who are familiar with the candidate's work and to whom the statement of purpose has been furnished.

### *Program Requirements*

The M.A. program requires a minimum of one year of full-time graduate study. The program may be completed through course work or through a combination of courses and a thesis. If satisfied by courses, the one-year M.A. program requires a research essay (SAS 2001Y, a paper of 10,000 to 20,000 words written under individual supervision) plus a minimum of three full graduate courses. For the SAS 2001Y requirement, another Centre course may be substituted if the student completes a paper of comparable length in the course. For students writing a thesis, two graduate courses are required.

Students whose records show inadequate preparation may enrol in a two-year program. The two-year M.A. program requires SAS 2001Y plus a minimum of six courses, of which at least four must be graduate courses (numbered 1000 or above); or if completed by thesis, five courses (at least three must be graduate courses numbered 1000 or above).

All students are strongly advised to study at least one South Asian language. Specific language requirements for entrance to the M.A. program will depend on a student's core discipline and specialized research. In cases where the appropriate level of preparation is in doubt,

the Centre may require testing to ensure adequate language competence.

***Seminar***
A seminar is held monthly for the presentation and discussion of the results of current research and other topics of interest to the members of the Centre. All Centre students are expected to attend and participate.

**Courses of Instruction**
Not all courses are offered each year. Please consult the *South Asian Studies Handbook* which lists the courses the Department will offer this year as well as those offered by other departments that may be taken for South Asian Studies credit.

In addition to those listed below, students may enrol in courses in a range of departments, with the agreement of the Centre and the department concerned.

***General***
SAS 2000H,Y Special Reading Course/*Staff*
SAS 2001Y Research Essay/*Staff*
SAS 2002H,Y Special Studies Course—South Asia
From time to time the Centre may offer upper level undergraduate courses which have been recognized for graduate credit. SAS 2002H,Y will be used to designate such courses.
SAS 2003H,Y Special Reading Course/*Staff*

***East Asian Studies***
EAS 1223Y Readings in Dharmasastra/*S. Sandahl*
EAS 1347Y Research in Asian Music/*D. B. Waterhouse*
EAS 1348Y Research in the History of Buddhist Art/*D. B. Waterhouse*
EAS 1514Y Readings in Classical Hindi/*S. Sandahl*

***English***
ENG 5990Y Postcolonial Literature Fiction/*C. Kanaganayakam*

***History***
HIS 1000H Historiography/*C. T. McIntire*
JHA 1685Y Medieval Indian Society: Concepts of Law, State, and Social Structures to 1800 A.D./*N. K. Wagle*
JHA 1686H Studies in Ancient and Medieval Indian Historiography: Buddhist, Jain, Hindu, and Muslim/*N. K. Wagle*
JHA 1690Y Nationalism in India—Before and After Independence/*M. Israel*

***Political Science***
POL 2411Y Topics in Asian Politics/*A. G. Rubinoff*

***Religion***
RLG 2021H Historiography of Religions/*C. T. McIntire*
RLG 2022H Religion and Comparative Views of History/*C. T. McIntire*
RLG 3151H Zoroastrianism/*W. G. Oxtoby*
RLG 3711H Social Ethics of Hinduism/*S. Sandahl*
RLG 3729H Sikh Religion/*Staff*
RLG 3741H Interpretations of Hindu Tradition/*J. T. O'Connell*
RLG 3743H The Bhakti Tradition/*J. T. O'Connell*
RLG 3745H Hindu Myths and Mythology/*J. T. O'Connell*

***South Asian Studies***
SAS 1220Y Abhidharma (The Systematic Philosophy of the Old Schools of Buddhism from Pali and Sanskrit Texts)/*Staff*
SAS 1221Y *Madhyamaka* (The Dialectical Philosophy of Nagarjuna)/*L. C. D. C. Priestley*
SAS 1510H Readings in the Bhagavata Purana/*Staff*
SAS 1512H Bengali Religious History/*J. T. O'Connell*
SAS 1513H Readings in Bengali Literature/*J. T. O'Connell*
SAS 1515Y Sanskrit Reading Course in Puranas and Itihasas/*Staff*
SAS 1516Y Readings in Sanskrit Literature/*Staff*
SAS 1600H The Indian Economy: Four Decades of Planned Economic Development/*N. K. Choudhry*

# South Asian Studies (Collaborative Program)

**Program Committee**
R. Birla, BA, MA, MPhil, PhD/History
A. Dhand, BA, MA, PhD/Religion
M. Kasturi, BA, MPhil, MA, PhD/History
C. T. McIntire, BA, MA, MDiv, PhD/Religion

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The South Asian Studies Collaborative Program formalizes a long-standing cooperative relationship between the Graduate Department of History, the Centre for the Study of Religion, and the Centre for South Asian Studies.

The University is expanding the focus of the current collaborative program to include other disciplines. The mandate of the Centre for South Asian Studies is to promote and encourage studies and research in the area of South Asia. Please contact the Centre to inquire about pursuing your academic interests, including both master's and Ph.D. studies, through the collaborative program.

The Centre for South Asian Studies provides a nucleus for the participation of South Asian studies scholars from across the University. It makes possible innovative approaches to graduate work in South Asian studies. Students in the collaborative program will be able to choose from a wide range of courses to design their individual programs. They will also benefit from the physical presence of the Centre for South Asian Studies and its regular activities of research fora, conferences, student seminar series, and visiting lecturer and scholar programs. In addition, the University of Toronto's library collection in South Asian studies is the largest in Canada.

Master's and doctoral students in the collaborative program in South Asian studies will register in the School of Graduate Studies and will enrol either in the Graduate Department of History or the Centre for the Study of Religion. 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.

***Admission Requirements***
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 department concerned and the program committee of the collaborative program.

***Program Requirements***
**1** Students in the collaborative program must meet all requirements of their home department.
**2** Master's students must successfully complete one half-course (or equivalent) in some area of South Asian studies outside their major discipline. Doctoral students will take one half-course outside their major discipline.
**3** Master's students must complete the M.A. 2000 paper or the M.A. thesis. Doctoral students must complete the Ph.D. thesis based on a South Asian topic.
**4** There is no core course *per se* in the collaborative program. Instead, all students in the collaborative program will be expected to attend and participate in the monthly student seminar program organized by the Centre for South Asian Studies. All collaborative students will be expected to present a paper.
**5** The Centre for South Asian Studies visiting lecturer program incorporates a seminar session of four seminars/lectures per academic session, and collaborative program students will be expected to attend these sessions.
**6** Students will be required to attain a level of language competency commensurate with the research topic they wish to pursue in South Asian studies. The M.A. and Ph.D. language requirements of the home department will apply.
**7** Successful completion of the program permits the designation of "Completed Collaborative Program in South Asian Studies" to appear on the student's transcript.

# Spanish SPA

## Graduate Faculty

### Full Members

J. Blackmore, BA, MA, PhD
J. F. Burke, BA, MA, PhD
E. N. Burstynsky, BA, MA, PhD
M. Danesi, BA, MA, PhD, FRSC
A. Percival, BA, MA, PhD
***(Coordinator of Graduate Studies)***
A. T. Pérez-Leroux, BA, MA, PhD
W. L. Rolph, BA, MA, MPh
S. J. Rupp, BA, MA, MPhil, PhD
***(Chair)***
R. Sarabia, BA, MA, PhD
R. Sternberg, BA, MA, PhD

### Members Emeriti

K. A. A. Ellis, BA, MA, PhD, DFil, FRSC
J. Escobar, MA, PhD
R. J. Glickman, AM, PhD
J. Gulsoy, MA, PhD, FRSC
O. Hegyi, MA, PhD
P. R. Léon, MA, PhD
E. Neglia, MA, PhD
R. Skyrme, BA, MA, MLitt, PhD
M. J. Valdés, BA, MA, PhD, FRSC, Miembro Correspondiente de la Academia Mexicana
J. R. Webster, BA, MA, PhD, FRSC

### Associate Members

D. Rojinsky, BA, MA, PhD

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Candidates are accepted under the general regulations, provided that they also satisfy the Department's requirements stated below. Their programs must in all cases be approved by the Department.

### Degree of Master of Arts

Applicants for admission to candidacy for the M.A. degree must submit two letters of recommendation with their application for admission.

Candidates must satisfy the departmental requirements for entry into a one-year M.A. program, have achieved at least mid-B standing in their University of Toronto 300- and 400-series courses (or equivalent courses) and be approved by the Department, or have equivalent qualifications from recognized universities.

The Department will determine whether candidates need to complete prerequisite work in order to qualify for admission to a Master of Arts program and will advise students accordingly. Candidates who wish to specialize in the field of Hispanic linguistics (see 3 below) must complete an introductory course in general linguistics (LIN 100Y or equivalent) before entering the program. If necessary, this course may be taken during the summer immediately preceding the M.A. year.

Candidates must show evidence of an oral and written command of Spanish. They must complete a total of four graduate courses and will specialize in one of three fields:

**1** Spanish Peninsular literature
**2** Spanish American literature
**3** Hispanic linguistics

### Degree of Doctor of Philosophy

Admission to the Ph.D. program requires a master's degree in an appropriate discipline (Spanish, Romance Languages, Comparative Literature/Linguistics) with an average of A- or higher. Applicants from recognized universities must have equivalent qualifications to those expected of applicants from the University of Toronto. The Department does not allow direct entry to the doctoral program with a B.A., nor does it allow M.A. students to transfer to the doctoral program before the course work for the M.A. is completed.

Applicants must arrange for two letters of reference to be sent directly to the Department and must submit with their applications a one-page Statement of Purpose describing the general area or areas in which they intend to conduct their doctoral research. In addition, each candidate must submit a sample of his/her writing, in English or Spanish (at least 2000 words in length), on a subject related to the candidate's area of interest.

Admission 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 candidate's preferred area of interest and the suitability of the candidate in relation to the structure and programs of the Department.

The Ph.D. program is designed to be completed in four years, but individual students may require further time. In 1998-99 there were 32 students registered in this program; 10

doctorates were conferred, and the average time for completion was 5.2 years.

The Ph.D. program specifies a period of two sessions of residence 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 Department's activities associated with the program.

Candidates must complete a total of four full courses which, together with the four courses taken at the M.A. level, will lead to specialization in one of the following curriculum areas:

**1** Spanish Medieval literature to 1500
**2** Golden Age literature, 1500 to 1700
**3** Modern Spanish literature, 1700 to present
**4** Spanish American literature
**5** Hispanic linguistics

All candidates in literature (areas 1 to 4) must include within the eight-course load at least one half-course in each of the curriculum areas outside their area of specialization. Candidates in areas 1 to 3 must complete a full-course equivalent in Spanish American literature; candidates in area 4 must complete a full-course equivalent in medieval and/or Golden Age literature. Credit (up to 1.5 full-course equivalents) will be granted for courses in a cognate discipline (for example, History, Philosophy, Comparative Literature, Medieval Studies, Women's Studies). Candidates in area 5 will take courses in linguistics and philology drawn from offerings in Spanish, Linguistics, and other departments of language and literature; a full course in Romance Philology is strongly recommended if not taken at the M.A. level, and the eight-course load must include a half-course in area 1 and a second half-course from one of areas 1 to 4.

In addition to course requirements, Ph.D. candidates must successfully complete, before the end of the fall of the second year in the program, an oral comprehensive examination based on coverage courses (that is, those courses that do not form part of the area of specialization). They will also submit, by the first week of March of the second year of residence, a research essay in Spanish which will be defended before a committee prior to the end of the same month.

Before the beginning of the third year of the doctoral program, all candidates must demonstrate, in addition to an oral and written command of Spanish, a knowledge of French and of a third foreign language. These language requirements may be satisfied only by passing the appropriate reading knowledge examinations offered by the various departments of language and literature at the University of Toronto.

The program for the Ph.D. in Romance Languages and Literatures is administered by a committee representing the graduate departments of French Language and Literature, Italian Studies, and Spanish. For a detailed description of the program requirements, see the appropriate section in the entry for French Language and Literature in this calendar.

**Courses of Instruction**

Most graduate courses are offered in a regular rotation. As a result, approximately half of the courses that appear in this calendar entry will be available in a given academic session. An annual list of courses offered is printed in the *Graduate Brochure*, available on the Department's Web site.

| | |
|---|---|
| JRL 1100Y | Introduction to Romance Philology/*Staff* |
| LIN 1029H | Sound Patterns in Language/*Staff* |
| LIN 1031H | Morphological Patterns in Language/*Staff* |
| SPA 1053H | History of the Spanish Language/*Staff* |
| SPA 1081H | The Structure of Spanish/*A. T. Pérez-Leroux* |
| SPA 1088H | Spanish Syntax/*A. T. Pérez-Leroux* |
| SPA 1098H | Applied Spanish Linguistics/*M. Danesi* |
| SPA 1101H | Topics in the Acquisition of Spanish/*A. T. Pérez-Leroux* |
| SPA 1102H | Topics in Bilingualism/*M. Danesi* |
| SPA 1150H,Y | Directed Research in Hispanic Linguistics/*Staff* |
| SPA 2016H | Medieval Spanish Narrative/*J. F. Burke* |
| SPA 2021H | The Politics of Print/*J. Blackmore* |
| SPA 2025H | Conquest and Chronicle: Writing, Reading, Making the New World/*J. Blackmore* |
| SPA 2031H | Writing that Conquers: Early Colonial Historiography/*D. Rojinsky* |
| SPA 2032H | The Spiritual Conquest of the Americas: Empire and Ethnography/*D. Rojinsky* |
| SPA 2135H | Spanish Picaresque Fiction/*Staff* |
| SPA 2151H | Cervantes I: Theatre, Romances, Exemplary Tales/*Staff* |
| SPA 2152H | Cervantes II: *Don Quixote*/*Staff* |
| SPA 2189H | Lope and Calderón/*S. Rupp* |
| SPA 2277H | The Modern Spanish Cuento (1860-1936)/*A. Percival* |
| SPA 2278H | Contemporary Hispanic Women's Writing I/*A. Percival* |
| SPA 2279H | Contemporary Hispanic Women's Writing II/*A. Percival* |

SPA 2282H The Contemporary Spanish Cuento (1936-Present)/ *A. Percival*
SPA 2285H Twentieth-Century Spanish Poetry/*R. Skyrme*
SPA 2298H Luis Buñuel/*W. L. Rolph*
SPA 2299H The Culture of Vision in Hispanic Literature and Film/*W. L. Rolph*
SPA 2351H Masters of Twentieth-Century Spanish Drama/*A. Percival*
SPA 2404H The Latin American Novel/ *R. Sarabia*
SPA 2432H Text and Image in Latin American Culture/*R. Sarabia*
SPA 2475H Rubén Darío/*R. Skyrme*
SPA 2805H Representations of Women in Latin American Culture/ *R. Sarabia*
SPA 2951H Modernism in Latin America/ *R. Sternberg*
SPA 3000H,Y Directed Research in Hispanic Literatures/*Staff*

# Speech-Language Pathology SLP

## Graduate Faculty

### Full Members

S. M. Abel, BSc, MA, PhD
L. F. De Nil, MSc, PhD
***(Chair)***
N. E. Diamant, MDCM, FRCP(C)
L. E. Girolametto, BA, MSc, PhD
***(Graduate Coordinator, M.H.Sc. Full-time, M.Sc., Ph.D.)***
M. L. Hyde, BSc, PhD
C. J. Johnson, BS, MS, MA, PhD
***(Graduate Coordinator, M.H.Sc. Part-time)***
J. R. Mendelson, BSc, PhD
B. M. O'Keefe, BS, MS, PhD
***(Associate Chair)***
E. A. Rochon, BA, MSc, PhD
R. H. Smyth, BA, MSc, PhD
P. A. Square, BSc, MA, PhD
P. A. Stewart, BSc, MSc, PhD
P. van Lieshout, PhD

### Associate Members

K. Bradley, BA, MHSc, PhD
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M. Jacobson, BA, PhD
A. Kagan, PhD
R. M. Kroll, BSc, MSc, PhD
C. Leonard, BA, MSc, PhD
J. Ostroff, BA, MSc, MPhil, PhD
P. Parnes, BSc, DSPA
K. Riko, BA, MSc
S. G. Roberts, BSc, MD, FRCP(C)
N. Thomas-Stonell, BSc
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Speech-language pathology is concerned with human communication and its disorders. The Department offers professional and research degree programs for careers in the discipline.

### Degree of Master of Health Science

The Master of Health Science (M.H.Sc.) 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 the development of an analytical and evaluative approach to 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. Students are also introduced to applied research in the discipline. All aspects of the program are integrated and sequenced. Teaching in the related disciplines of the behavioural, life, and medical sciences, and in linguistics interfaces with the various specialities of speech-language pathology.

#### *Admission Requirements*

Candidates for admission must have completed a four-year University of Toronto bachelor's degree, with at least a mid-B standing in the final year, or its equivalent from this or another recognized university. Additional requirements include prerequisite courses in child development, linguistics/psycholinguistics, phonetics, elementary statistics, and human physiology. See the departmental Web site for a full listing of admission requirements.

Facility in oral and written English is 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 listed in this calendar. To satisfy the requirement, the Department strongly prefers the Test of English as a Foreign Language (TOEFL) with a minimum score of 600 (250 on the computer-based test), accompanied by the Test of Written English (TWE) with a minimum score of 5, and the Test of Spoken English (TSE) with a minimum score of 50.

If an applicant finds it impossible to take the TOEFL, TWE, and TSE, the Department will accept one of the following:
**1** the Michigan English Language Assessment Battery (MELAB) with a minimum score of 85;
**2** the International English Language Testing System (IELTS) with a minimum score of 8.0.

In addition to the proficiency test, 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.

Candidates for the full-time and the part-time programs must submit applications by mid-January. Check the departmental Web site, or contact the department by phone or e-mail, for the exact application deadline. All applications for the M.H.Sc. program must be sent directly to the Ontario Universities Application Centre in Guelph, Ontario (see departmental Web site for complete address information).

***Program Requirements***

The professional M.H.Sc. 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 placement lasts between 4 and 10 weeks for a total of 31 weeks of clinical experience throughout the 2 year M.H.Sc. program. Candidates 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 inlcudes 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).

The M.H.Sc. program does not have a thesis requirement; however, all M.H.Sc. students will be required to demonstrate proficiency in key areas of professional practice, including application of research principles, prior to graduation.

**Degree of Master of Science**

The Master of Science (M.Sc.) degree is a full-time program that prepares students to engage in the scientific study of normal and disordered speech and language processes in children and adults.

The M.Sc. degree in speech-language pathology is a research-oriented program and does not prepare students for clinical practice. Although the primary objective of the M.Sc. program is to prepare students for doctoral studies in speech and language sciences, successful completion of the program does not guarantee entrance into the Ph.D. program.

***Admission Requirements***

Students with a four-year degree, or its equivalent, in speech-language pathology or a related discipline, are considered for admission according to the general admission criteria of the School of Graduate Studies. Prior to admission, an applicant must identify a faculty member who has agreed to serve as research supervisor. Application deadlines are February 1 for September registration and September 15 for January registration. Students applying to the M.Sc. program should submit all application material directly to the Department of Speech-Language Pathology.

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.

***Reclassification Examination***

Master of Science candidates 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 Doctor of Philosophy program. This examination normally is undertaken following the completion of at least one session and within 18 months of registration in the M.Sc. program.

***Program Requirements***

**1** *Candidates with a background in speech-language pathology*

The program requires a one-year residency period which typically is sufficient for completion of the course work. Course requirements are determined by the student's supervisory committee. Normally, the candidate is required to complete satisfactorily a minimum of two full courses, consisting of at least one full course in research design and methodology, and at least one full course in the area of research interest. In addition, students are required to participate in student and faculty research seminars. Students also are required to engage in a research project, present the results in a written thesis, and complete a successful oral defence of the thesis.

**2** *Candidates without a background in speech-language pathology*

The program requires a two-year residency period which typically is sufficient for completion of the course work. Course requirements are determined by the student's supervisory committee. During the first year of study, students take courses in the M.H.Sc. program that provide the requisite knowledge for the area of research interest and attend student and faculty

research seminars. Following successful completion of the courses in the first year, students complete the requirements for the M.Sc. degree as outlined for candidates with a background in speech-language pathology (see 1 above).

**Degree of Doctor of Philosophy**

The purpose of the Ph.D. 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.

***Admission Requirements***

Admission to the Ph.D. degree program is based on the applicant's demonstrated qualifications for advanced research in speech and language sciences. Prior to admission, an applicant must identify a faculty member who has agreed to serve as research supervisor. Normally, candidates are expected to have completed a M.Sc. or M.A. degree in speech-language pathology, or a related discipline, with a minimum of a B+ average over the course of the program. Students applying to the Ph.D. program should submit all application material directly to the Department of Speech-Language Pathology.

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.

***Program Requirements***

The Ph.D. program normally extends over three to four years. Students complete a residency requirement during the first two years of the program. Course requirements are determined by the student's supervisory committee and consist of a minimum of three full courses or the equivalent. Candidates must demonstrate evidence of adequate knowledge in research design and statistics or must include suitable course work as determined by the supervisory committee. Candidates for the Ph.D. degree are expected to participate in student and faculty research seminars in addition to their regular course requirements. For students with a comprehensive background in speech-language pathology, 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 defends the research proposal and completes a departmental comprehensive examination. Following successful completion of the comprehensive examination, the student progresses to the second phase of the program which 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.

**Courses of Instruction for the M.H.Sc. Program**

Consult the departmental student handbook 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 (CR/NCR)/*S. Wagner* |
| SLP 1502Y | Anatomy and Embryology/ *P. Stewart* |
| SLP 1503Y | Articulation and Related Disorders/*C. Johnson* |
| SLP 1505Y | Child Language I/*L. Girolametto* |
| SLP 1506H | Child Language II/*L. Girolametto* |
| SLP 1507H | Clinical Laboratory in Speech-Language Pathology/*S. Wagner* |
| SLP 1514Y | Applied Audiology/*Staff* |
| SLP 1516H | Aural Rehabilitation/*Staff* |
| SLP 1520H | Principles of Clinical Practice/ *S. Wagner* |
| SLP 1521H | Augmentative Communication/ *B. O'Keefe* |
| SLP 1522Y | Speech Physiology and Acoustics/*P. van Lieshout* |
| SLP 1529H | Fluency Disorders/*L. De Nil* |
| SLP 1530H | Voice Disorders/*T. Bressmann* |
| SLP 1532H° | Clinical Laboratory in Hearing Disorders/*Staff* |

*The second year of the program for full-time students will consist of:*

| | |
|---|---|
| SLP 1508Y | Advanced Clinical Laboratory in Speech-Language Pathology/ *S. Wagner* |
| SLP 1525H | Structurally Related Disorders/ *T. Bressmann* |

(CR/NCR) Credit/No Credit

°Courses which may continue over a program. The course is graded when completed.

SLP 1527H Physical Analysis of Speech Disorders/*P. van Lieshout*
SLP 1528H Research in Speech-Language Pathology/*C. Johnson*
SLP 1533Y Aphasia/*E. Rochon*
SLP 1534Y Motor Speech Disorders/*Staff*
SLP 1535H Advanced Principles of Clinical Practice/*S. Wagner*
SLP 1536H Swallowing Disorders/*R. Martino*
SLP 1538H Neurocognitive Communication Disorders/*E. Rochon*
SLP 2500Y Advanced Internship/*S. Wagner*

**Courses of Instruction for the M.Sc. and Ph.D. Programs**

SLP 3001H Theoretical Foundations of Communication Sciences/ *L. De Nil, C. Johnson*
SLP 3002H Research Methodologies in Communication Sciences/ *C. Johnson*
SLP 3003H° Research Seminar/*Staff*
SLP 3004H,Y Reading Seminar/*Staff*
SLP 4000H° Research Seminar/*Staff*
SLP 4001H Philosophical and Theoretical Foundations of Communication Sciences/*C. Johnson, L. De Nil*
SLP 4007H,Y Reading Seminar/*Staff*

**Special Courses Offered to Students from Other Departments**

SLP 2501H Special Topics in Communication Disorders/*Staff*
SLP 2502Y Specialized Study in Communication Disorders/*Staff*

°Courses which may continue over a program. The course is graded when completed.

# Statistics STA

## Graduate Faculty

### Full Members

D. Brenner, BSc, MSc, PhD
S. Broverman, BSc, MSc, PhD, ASA
L. J. Brunner, BA, PhD, MA, PhD
P. N. J. Corey, BSc, MA, PhD
M. D. Escobar, BS, PhD
M. J. Evans, BSc, MSc, PhD
A. Feuerverger, BSc, PhD
K. Knight, BSc, MS, PhD
***(Chair)***
X. S. Lin, BSc, MSc, MMath, PhD, ASA
P. McDunnough, BSc, MSc, PhD
R. M. Neal, BSc, MSc, PhD
J. Quastel, BSc, MS, PhD
N. M. Reid, BMath, MSc, PhD, FRSC
J. S. Rosenthal, BSc, MA, PhD
***(Associate Chair, Graduate Studies)***
J. E. Stafford, BSc, MSc, PhD

### Members Emeriti

D. F. Andrews, BSc, MSc, PhD, Fellow ASA
D. A. S. Fraser, BA, MA, MA, PhD, DMath, FRSC
I. Guttman, BSc, MA, PhD
M. S. Srivastava, MSc, PhD

### Associate Members

V. R. Craiu, BS, MS, PhD
T. Duchesne, BSc, MSc, PhD, ASA
S. Jain, MSc, PhD

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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. 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 Community Health. The Department maintains an active seminar series and strongly encourages participation by graduate students.

Candidates are accepted under the general regulations. The Department requires a TOEFL (Test of English as a Foreign Language) score of 580 or better and successful completion of the TWE (Test of Written English) for candidates whose primary language is not English.

### Degree of Master of Science

Qualified candidates may be accepted into a one-year or two-year program for the degree of Master of Science. It is also possible to obtain the M.Sc. degree by part-time studies since there is no formal residency requirement for this degree.

Candidates for the one-year program are required to take and pass four approved full-year courses, one of which may be an approved supervised reading project. Alternatively, candidates may take STA 3000Y plus five half-year courses. Two approved half-year courses are considered the equivalent of a full-year course. Further details may be found in the Graduate Information brochure available from the Department. All programs must be approved by the Coordinator of Graduate Studies.

The first year of a two-year program consists of prerequisite and other courses to prepare the candidate for the one-year M.Sc. program. Candidates who plan to undertake the part-time M.Sc. degree must qualify for admission to the one-year program.

Students will not be permitted to begin the full-time master's program in a January session; therefore, only applications for the part-time M.Sc. program will be considered for January admission.

### Degree of Doctor of Philosophy

#### *Admission Requirements*

Candidates are admitted under the general regulations for the Ph.D. However, under exceptional circumstances, candidates may be admitted to the Ph.D. program from a bachelor's degree. In this case, they will be required to complete STA 2111H, STA 2211H, STA 3000Y, and four other half-courses. (This represents two half-courses more than the normal Ph.D. course work requirement.)

Students should be aware that if their background in statistics is not strong, they may not be able to write the comprehensive examination until the end of their second year in

the program. This would mean that they may have difficulty completing the Ph.D. in four years.

Students entering the program with an M.Sc. degree in statistics from the University of Toronto should not experience this difficulty.

***Program Requirements***

**1** There will be a one-year residence period for all students admitted to the Ph.D. program who have completed a master's degree. Students admitted from a bachelor's degree will have a two-year residence period.

**2** There is no major/minor field requirement for graduation.

**3** Candidates are required to take six half-courses including STA 2111H, STA 2211H, and STA 3000Y. Students transferring from the M.Sc. program who have taken any or all of STA 2111H, STA 2211H, and STA 3000Y during their M.Sc. program will have the number of required courses reduced accordingly.

**4** Candidates are required to pass a comprehensive examination and satisfy the Department of their knowledge of probability and statistics, and advanced knowledge at the master's level in their degree area (applied statistics, theoretical statistics, or probability) prior to embarking on a thesis. The submission of a suitable thesis is required. Further details may be found in the Graduate Information brochure available from the Department.

**Courses of Instruction**

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 1502H | Stochastic Models in Investments |
| STA 2004H | Design of Experiments |
| STA 2006H | Applied Stochastic Processes |
| STA 2101H | Methods of Applied Statistics I |
| STA 2102H | Computational Techniques in Statistics |
| STA 2103H | An Introduction to Bayesian Inference |
| 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 | Actuarial Risk Theory |
| STA 2501H | Mathematical Risk Theory |
| 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 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 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 |

# Theoretical Astrophysics

## Graduate Faculty

### Full Members

J. R. Bond, BSc, MS, PhD, FRS, FRSC, Fellow CIAR, Fellow APS, University Professor ***(Director)***
L. Kofman, MSc, PhD, Fellow CIAR
P. G. Martin, BSc, MSc, PhD
N. W. Murray, BS, PhD, Canada Research Chair ***(Associate Director)***
U.-L. Pen, BSc, MSc, PhD
A. C. Thompson, BS, PhD

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## Introduction

CITA is a national institute specializing in theoretical astrophysics. It was established in 1984 and has the support of over fifty faculty members from about twenty Canadian universities. CITA is hosted by the University of Toronto which contributes to its ongoing support. Further major support is received from the Natural Sciences and Engineering Research Council. CITA is governed by a national council elected through the Canadian Astronomical Society.

In addition to its faculty, CITA maintains a rotating complement of more than a dozen post-doctoral fellows and research associates, and hosts an active program of visitors from other universities.

## The Facility

CITA is housed in the Burton Tower of the McLennan Physical Laboratories, adjacent to the departments of Astronomy and Physics. CITA owns an extensive and powerful network of massively parallel computers and workstations.

## Research Activities

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.

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.

## Graduate Research Training

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 (e.g., Astronomy and Astrophysics, Chemistry, Physics). All CITA faculty hold cross-appointments in one or more of these departments, and inquiries by students seeking research supervision by CITA faculty are welcome. CITA research fellows and visitors are also encouraged to work with graduate students.

# Theory and Policy Studies in Education TPS

## Graduate Faculty

### Full Members

S. Acker, BA, MA, PhD
S. E. Anderson, PhD
P. Axelrod, BA, MA, PhD
N. Bascia, BA, EdS, MA, PhD
***(Chair)***
P. T. Begley, BA, BEd, MEd, EdD
D. G. Bogdan, BA, MA, PhD
D. R. Boyd, BA, MEd, EdD
***(Program Coordinator, Philosophy)***
E. Campbell, BA, BEd, MEd, PhD
A. Datnow, BA, PhD
L. M. Earl, PhD
D. Haché, BA, BEd, MEd, MBA, PhD
L. Hannay, BA, MEd, PhD
A. Hargreaves, BA, PhD
R. Hayhoe, BA, MA, PhD
A. Hildyard, BSc, MA, PhD
G. A. Jones, BA, BEd, MEd, PhD
D. W. Lang, BA, MA, PhD
K. A. Leithwood, BA, BPE, MPE, PhD
D. Levine, BA, MA, PhD
***(Program Coordinator, History)***
J. Magnusson, BA, MA, PhD
D. Misgeld, DPhil
C. Morgan, BA, MA, PhD
***(Associate Chair)***
L. J. Muzzin, BA, MA, MA, PhD
R. Ng, BA, MA, PhD
S. Padro, BA, MS, PhD
***(Program Coordinator, Educational Administration)***
C. Pascal, BA, MA, PhD
J. Portelli, BA, MA, PhD
G. Regehr, BA, PhD
C. Reynolds, BA, MA, PhD
A. I. Rothman, BSc, MS, EdD
J. J. Ryan, BPE, BEd, MEd, PhD
M. Skolnik, BA, BPhil
***(Program Coordinator, Higher Education)***
E. M. Smyth, BA, BEd, MA, EdD
R. G. Tiberius, BSc, MA, PhD
H. M. Troper, BA, MA, PhD
M. A. Zuker, BA, LLB, MEd

### Members Emeriti

W. Brehaut, BA, MA, EdD
A. F. Brown, BA, BPed, MEd, PhD
J. E. Davis, BA, BEd, MEd, PhD
J. A. Eisenberg, BA, AM
E. S. Hickcox, BA, MAT, EdD
J. W. Holland, BA, MS, PhD
M. Holmes, MA, BEd, PhD
J. H. House, BA, BEd, PhD
S. B. Lawton, BA, MA, PhD
D. F. Musella, BS, MEd, MA, EdD
R. R. Pierson, PhD
A. Prentice, BA, MA, PhD
R. G. Townsend, BA, MCP, PhD
C. Watson, BA, MA, PhD
I. Winchester, BSc, BPhil, DPhil

### Associate Members

B. Applebaum, MA, PhD
H. P. Batty, MD, CCFP, MEd, FCFP
S. Bell, BA, MA, PhD
D. Cleave-Hogg, BA, MA, PhD
P. Corson, PhD
H. Davis, BA, MA, PhD
V. Dhruvarajan, BA, MA, PhD
P. Dietsche, BSc, MA, PhD
P. Draper, BA, MA, PhD
M. Epp, BA, MA, PhD
M. Ford, BEd, MA, PhD
R. Giroux, BA, BPE, MEd, PhD
R. Gordon, BA, MEd, MA, EdD
A. Gregor, BA, MA, PhD
S. Hamstra, BA, MA, PhD
M. J. Hatton, BA, MSEd, MBA, PhD
R. Hilliard, BA, MD, MEd, EdD
A. Hyman, BSc, MA, PhD
C. James, BEd, MA, PhD
K. R. Janzen, BScN, MEd, EdD
R. Joshee, BA, MA, PhD
S. Katz, PhD
B. V. Laden, BA, MA, MA, PhD
L. Lingard, BA, MA, PhD
G. Macdonald, RN, BScN, MEd, EdD
G. R. Norman, BSc, MA, PhD
J. Nyhof-Young, BSc, MSc, PhD
T. O'Banion, BA, MEd, PhD
J. Pan, BA, MEd, PhD
P. Poldre, MD, EdD, FRCP(C)
S. Quazi, BSc
D. G. Rosenberg, MES, PhD
C. Sethna
L. Sharratt, BEd, MEd
P. Shaw, BA, MEd, EdD
J. Turnbull, MD, MEd, BSc, FRCP(C)
C. Wright, BA, MA, PhD

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The Department of Theory and Policy Studies in Education (TPS) consists of three graduate programs, one representing two discipline-based fields (History and Philosophy) 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 M.Ed., M.A., Ed.D., and Ph.D. degrees. Members of the Department also participate in delivering the preservice teacher education program (B.Ed.), particularly the social foundations courses and courses rooted in educational history, philosophy, administration, and policy.

**Application, General Admission, and Program Requirements**

Applications must be made to one of four specializations:
Educational Administration
Higher Education
History of Education
Philosophy of Education

For information about application procedures and forms, contact the OISE/UT Registrar's Office at (416) 923-6641 ext. 2430.

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.

**Degree of Master of Education**

At OISE/UT there are three options for completing the M.Ed. degree.

*Option I*
Course work only option: ten half-courses plus a comprehensive examination/requirement.

*Option II*
Research project option: eight half-courses plus a research project or major research paper. Higher Education also requires a comprehensive examination.

*Option III*
Thesis option: six half-courses plus a thesis. This option is available only to students with an appropriate four-year bachelor's degree.

Information about available options in each graduate program follow.

***Educational Administration***

The M.Ed. program is designed primarily for students who are interested in learning the nature and practice of leadership in administration, policy, and planning.

*Admission Requirements*

In addition to the general requirements in the *OISE/UT Graduate Studies in Education Bulletin*, the criteria for admission to an M.Ed. degree program in Educational Administration are:
**1** an appropriate three-year or 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;
**2** an interest in the study and practice of administration;
**3** academic qualifications beyond the first degree;
**4** two letters of reference. Whenever possible, one should be written by an educational administrator for whom the applicant has worked, and the second by a professional colleague.

*Program Requirements*

The M.Ed. degree may be pursued either part-time or full-time.

There are two options within the M.Ed. program in Education Administration for all students.
Students who begin their program in the 2002/2003 academic year or later must meet the following requirements.

Option II comprises four required half-courses:

| | |
|---|---|
| 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 1003H | Conducting Research in Educational Administration |

TPS 1004H, TPS 1040H, and TPS 1041H should be taken first; course TPS 1003H should be taken towards the end of the program.

Option III comprises:
**1** four required half-courses:

| | |
|---|---|
| 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 1003H | Conducting Research in Educational Administration |

TPS 1004H, TPS 1040H, and TPS 1041H should be taken first; course TPS 1003H should be taken towards the end of the program.
**2** two other half-courses, of which at least one must be in Educational Administration;
**3** a comprehensive thesis, to be developed under the guidance of a faculty member.
**Note:** Applicants to Option III must have graduated with a four-year honours degree from the University of Toronto with B+ standing in the final year, or the equivalent.

***Higher Education***
Students in Higher Education will be required to pursue the M.Ed. Option I degree program (ten half-courses plus a comprehensive examination). Those students who are in the health professional education specialization will normally register in the M.Ed. Option II program (eight half-courses plus a research project or a major research paper). This option, if pursued on a full-time basis, cannot be completed in less than one Winter Session and one Summer Session. A comprehensive examination is required.

Additional information on the health professional education specialization may be obtained from Professor Daniel Lang.

***History of Education***
The M.Ed. degree in History of Education is pursued under Option II (eight half-courses plus a major research project/paper). Students are expected to take at least four half-courses in the History of Education, one of which must be TPS 1460H.

***Philosophy of Education***
The M.Ed. degree in Philosophy of Education is pursued under Option II (eight half-courses plus a major research project/paper). Students are expected to take at least four half-courses in Philosophy of Education.

**Degree of Master of Arts**

***Educational Administration***
The M.A. program 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.

Admission to the M.A. program normally requires a 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.

The M.A. program consists of eight half-courses and a thesis. Additional courses may be required of some applicants. The M.A. is available through both full-time and part-time studies.

***Higher Education***
Admission to the M.A. program normally requires a 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 mid-B standing in the final year.

The M.A. program consists of eight half-courses, a general written comprehensive examination, and a thesis. Additional courses may be required of some applicants. All students are required to complete TPS 1803Y.

***History of Education***
Qualified applicants who hold a four-year University of Toronto bachelor's degree, or its equivalent, with a major in history may be admitted to a one-year M.A. program comprising six half-courses and a thesis. Normally, four of the six half-courses must be selected from History of Education course offerings accepted for credit in this degree program. Course TPS 1419H is a requirement for students in this program.

***Philosophy of Education***
Qualified applicants who hold a four-year University of Toronto bachelor's degree, or its equivalent, with a major in philosophy may be admitted to a program comprising six half-courses and a thesis. In this program, TPS 1440H is mandatory (unless it, or its equivalent has been taken previously). Three of the re-

maining five courses should normally be in Philosophy of Education, 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.

Applicants with undergraduate majors in related social science and humanities disciplines are normally required to take some additional courses.

## Degree of Doctor of Education

### *Educational Administration*

The Ed.D. program in Educational Administration is designed to develop highly competent personnel for senior administrative positions in school systems, colleges, universities, and other educational institutions and agencies, and for academic positions in universities and colleges. The program is designed to satisfy the needs of practising and aspiring educational administrators and academics who, because of the increasing complexity of problems related to the operation of educational organizations, have recognized the need for further professional education. The emphasis is on developing skills in the application of knowledge from theory and research to practical administrative problems. To accomplish this, the program is flexibly designed and involves numerous collaborative experiences among faculty members, students, and administrators.

*Admission Requirements*

In addition to the general requirements given in the *OISE/UT Graduate Studies in Education Bulletin* the Educational Administration program specifies the following:

**1** The applicant should hold a master's degree with specialization in Educational Administration from the University of Toronto, or an equivalent degree. Additional course work will be required of those who do not have a background in administrative studies.

**2** The applicant must have had a successful leadership experience in education or must show potential for leadership. Evidence of this will be provided by at least one letter of reference secured by the applicant from a senior administrator under whom the applicant has worked, commenting on the applicant's

**a** achievement in identifying and solving educational problems,

**b** ability to work with people,

**c** leadership style, and

**d** awareness of current social and educational issues.

**3** The applicant must also furnish at least one letter of reference from a professor with whom the applicant has studied, commenting on the applicant's scholarly achievement.

*Program Requirements*

The Ed.D. program is organized into six complementary components:

**1** Ed.D. core seminars, which consist of TPS 3040H and TPS 3041H, that apply theoretical knowledge to problems likely to be experienced by senior administrators in educational organizations;

**2** two of the following three half-courses or their equivalents: TPS 3042H, TPS 3043H, or TPS 3044H. TPS 3044H is the administrative internship/practicum program, and only an internship/practicum program taken for credit at another university would be considered equivalent;

**3** two further courses in Educational Administration at the 3000 level;

**4** elective courses; two are required, although more may be taken. It is suggested that at least one elective be taken outside of the Educational Administration program;

**5** a comprehensive examination as part of the thesis proposal hearing;

**6** a doctoral thesis.

### *Administrator Doctoral Program*

The Administrator Doctoral Program (Ed.D.) is designed for full-time administrators in educational or public-sector organizations. The admission and program requirements are generally the same as those of the present Ed.D. program with some exceptions. They include the same number of required courses, the internship, the comprehensive examination as part of the thesis proposal hearing, and the doctoral thesis. Some characteristics are unique to this program option:

**1** Unlike that of the regular Ed.D. program, the minimum period of full-time, on campus study will be satisfied by two four-month periods.

**2** To reflect the value of a cohort program, the schedule of the required courses will follow a fixed pattern for each group of students.

**3** The required period of full-time, on-campus study will coincide with the scheduling of the required courses (i.e., May-August).

**4** Students will be in a cohort group for three of the four required courses:

| | |
|---|---|
| TPS 3040H | Administrative Theory and Educational Problems I |
| TPS 3041H | Administrative Theory and Educational Problems II |

TPS 3042H Field Research in Educational Administration.

**5** Approved research proposals for the thesis will be field based and directed to administrative and organizational problems.

**6** Students normally will be required to participate in a supervised internship, TPS 3044H, unless an alternative is approved by the Ed.D. Program Coordinator or the thesis supervisor.

***Higher Education***

For the Ed.D. degree program in Higher Education, requirements include:

**1** a minimum of eight half-courses (which may be taken full-time or part-time) beyond a relevant and acceptable M.Ed. or M.A. degree. Normally they will include TPS 1803Y, at least three other half-course equivalents in Higher Education, and a half-course in research methodology approved by the faculty advisor;

**2** a written comprehensive examination;

**3** a thesis reporting the results of original research.

***History of Education***

The Ed.D. degree program in History of Education is designed for career educators who wish to engage in the in-depth study of a problem or topic related to professional practice.

The degree requirements (for candidates who have a master's degree equivalent to the History of Education M.Ed. or M.A.) consist of eight half-courses, a year of full-time study on campus, and a thesis. Preferably, the resident year should occur late in the degree program and should be devoted primarily to thesis research and writing.

The core program includes two mandatory Ed.D. seminars (TPS 3490H and TPS 3491H), normally taken during the resident year. Course TPS 1419H 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 two half-courses before the resident year.

All Ed.D. students who began their program after July 1, 1992, are required to take a comprehensive examination.

***Philosophy of Education***

The Ed.D. degree program is designed for career educators who wish to engage in the in-depth study of a problem or topic related to professional practice. 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.

The minimum Ed.D. degree requirements (for candidates who hold a master's degree equivalent to the Philosophy of Education M.Ed. or M.A.) consist of eight half-courses (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 Ed.D. students are required to take a comprehensive examination.

The core program includes two mandatory Ed.D. seminars (TPS 3480H and TPS 3481H), normally taken during the year of required full-time study, and course TPS 1440H (unless it, or an equivalent, has been taken previously). Three of the remaining five courses should normally be in Philosophy of Education, 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. Students are strongly encouraged, though not required, to take at least two half-courses before the year of required full-time study.

## Degree of Doctor of Philosophy

***Educational Administration***

The Ph.D. program 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 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.

Admission to the Ph.D. program requires prior completion of the University of Toronto M.A. degree or its equivalent, with standing equivalent to a University of Toronto A minus. 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 M.A./Ph.D. Admissions Committee. Before undertaking a qualifying research

project, students should first consult the Program Coordinator.

The program comprises at least six new half-courses, four of which 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.

Ph.D. candidates are required to pass a comprehensive examination as part of the thesis proposal hearing. A thesis is required.

### *Higher Education*

Requirements for the Ph.D. program include:
**1** six half-courses beyond the M.A. or M.Ed. degree in Higher Education. In individual cases, students with a highly relevant master's degree in other educational specializations or other fields will be admitted but remedial work in Higher Education will be required. The six half-courses will include four in Higher Education. The remaining two half-courses may be selected from this program, or from any department of OISE/UT, or from another graduate department of the University of Toronto, with the approval of the faculty advisor. Unless exemption is granted for prior study, all Ph.D. programs in Higher Education must include TPS 1803Y and a half-course in research methodology, approved by the faculty advisor;
**2** a written comprehensive examination;
**3** a thesis reporting the results of original research.

Collaborative Programs: Interested Higher Education program students may also enrol in the Collaborative Graduate Programs in Comparative, International, and Development Education; Gender Equity in Education; or Women's Studies/Feminist Studies.

### *History of Education*

Qualified applicants with a University of Toronto M.A. degree in History of Education, or its equivalent, including a thesis or equivalent major research paper, may be admitted to a six half-course (plus thesis) program. 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 master's degree with specialization in History of Education will be required to establish equivalency with the OISE/UT master's program. Usually this entails the addition of courses beyond the minimum six half-courses required for the Ph.D. Course TPS 1419H is a requirement for students in this program. Applicants who have taken graduate courses with substantial history of education content in any of several related disciplines in the humanities and social sciences should submit descriptions of such courses with their applications to help determine equivalency of the number of additional courses to be taken.

All Ph.D. candidates are required to write a comprehensive examination.

### *Philosophy of Education*

Qualified applicants with a University of Toronto M.A. degree in Philosophy of Education or its equivalent (including a thesis or equivalent major research paper) may be admitted to a program comprising six half-courses and a thesis. In this program, TPS 1440H is mandatory (unless it, or its equivalent, has been taken previously). Three of the remaining five courses should normally be in Philosophy of Education, 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.

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 master's degree with specialization in philosophy of education will be required to establish equivalency with the OISE/UT master's program. Usually this entails the addition of courses beyond the minimum six half-courses required for the Ph.D.

All Ph.D. candidates are required to write a comprehensive examination.

## Courses of Instruction

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/*P. T. Begley, S. Padro, J. J. Ryan, D. Haché*

TPS 1004H Research Literacy in Educational Administration/*S. Padro, Staff*
TPS 1005H The Computer in Educational Administration/*S. Padro*
TPS 1012H Organizational Culture and Decision Making/*Staff*
TPS 1013H Supervisory Relationships/*Staff*
TPS 1016H School Program Development and Implementation/*K. A. Leithwood*
TPS 1017H Educational Finance and Economics/*D. Lang*
TPS 1018H Political Skill in the Education Arena/*A. Datnow*
TPS 1019H Diversity and the Ethics of Educational Administration/*Staff*
TPS 1020H Teachers and Educational Change/*N. Bascia, A. Hargreaves*
TPS 1023H Interpersonal Relations in School Systems/*P. T. Begley, Staff*
TPS 1025H School Effectiveness and School Improvement/*D. Haché, A. Datnow*
TPS 1026H Evaluation of Professional Personnel in Education/*P. T. Begley*
TPS 1028H Policy Delivery and Schools/*N. Bascia, Staff*
TPS 1029H Special Applications of the Administrative Process/*Staff*
TPS 1030H The Legal Context of Education/*M. A. Zuker*
TPS 1036H Planning in Educational Organizations/*S. Padro*
TPS 1040H Educational Administration I: Introduction to Educational Administration: Policy, Leadership and Change/*P. T. Begley, J. J. Ryan, J. Portelli, N. Bascia*
TPS 1041H Educational Administration II: Social and Policy Context of Schooling/*P. T. Begley, S. Padro, J. J. Ryan, E. Campbell, A. Datnow, R. Joshee*
TPS 1042H Educational Leadership and Cultural Diversity/*J. J. Ryan*
TPS 1045H Language Policy Across the Curriculum/*Staff*
TPS 1047H Managing Changes in Classroom Practice/*K. A. Leithwood*
TPS 1048H Educational Leadership and School Improvement/*K. A. Leithwood, P. T. Begley*
TPS 1052H Individual Reading and Research in Educational Administration: Master's Level/*Staff*
TPS 3017H Problems in the Finance and Economics of Education/*Staff*
TPS 3018H Governing Education: A Seminar on Politics/*Staff*
TPS 3020H Educational Change in the Postmodern Age/*A. Hargreaves*
TPS 3021H Professional Ethics of Teaching and Schooling/*E. Campbell*
TPS 3024H Field Studies in Educational Leadership/*A. Hargreaves, J. J. Ryan*
TPS 3025H Personal and Professional Values of Educational Leadership/*P. T. Begley, E. Campbell*
TPS 3028H Project Development Studies/*Staff*
TPS 3029H Special Topics in Educational Administration/*Staff*
TPS 3030H Advanced Legal Issues in Education/*M. Zuker*
TPS 3037H Strategic Planning in Educational Organizations/*S. Padro*
TPS 3040H Administrative Theory and Educational Problems I: People and Power in Organizations/*J. J. Ryan, A. Datnow, Staff*
TPS 3041H Administrative Theory and Educational Problems II: Doctoral Seminar on Policy Issues in Education/*S. Padro, R. Joshee. Staff*
TPS 3042H Field Research in Educational Administration/*A. Hargreaves, J. J. Ryan*
TPS 3043H Survey Research in Educational Administration/*L. Earl, S. Padro*
TPS 3044H Internship/Practicum in Educational Administration/*P. T. Begley*
TPS 3045H Educational Policy and Program Evaluation/*N. Bascia*
TPS 3046H Gender Issues in Educational Leadership/*N. Basica*
TPS 3047H Research Seminar on Leadership and Educational Change/*K. A. Leithwood*
TPS 3052H Individual Reading and Research in Educational Administration: Doctoral Level/*Staff*
TPS 3055H Democratic Values, Student Engagement and Democratic Leadership/*J. Portelli*

***Higher Education***

TPS 1801H The History of Higher Education in Canada: An Overview/*Staff*
TPS 1803Y Recurring Issues in Postsecondary Education/*Staff*
TPS 1804H Issues in Medical/Health Professional Education/*Staff*
TPS 1805H The Community College/*Staff*

TPS 1806H Systems of Higher Education/*G. A. Jones*
TPS 1807H Strategic and Long-Range Planning for Postsecondary Systems/*S. Quazi, D. W. Lang*
TPS 1808H Research in Health Professional Education/*Staff*
TPS 1809H Administration of Colleges and Universities/*D. W. Lang*
TPS 1810H Evaluation of Knowledge, Clinical Competence, and Professional Behaviour in the Health Professions/*A. Rothman*
TPS 1811H Institutional Research and Planning/*S. Quazi, D. W. Lang*
TPS 1812H Education and the Professions/*L. J. Muzzin*
TPS 1813H Issues in Cognitive and Educational Psychology: Implications for Health Professional Education/*G.H. Regehr*
TPS 1814H Curriculum in Institutions of Higher Education/*J. L. Magnusson*
TPS 1815H Teaching in Institutions of Higher Education/*Staff*
TPS 1817H Nurturing Professional Education/*L. Muzzin*
TPS 1818H Educational Development: Examination of Strategies for Improving Teaching and Learning in PostsecondaryInstitutions/*R. Tiberius*
TPS 1819H Governance in Higher Education/*M. L. Skolnik*
TPS 1820H Special Topics in Higher Education: Master's Level/*Staff*
TPS 1821H Institutional Differentiation in Postsecondary Education/*M. L. Skolnik*
TPS 1822H The Idea of the University and the College/*Staff*
TPS 1824H The Planning of Facilities in Higher Education/*S. Quazi, D. N. Wilson*
TPS 1825H Comparative Higher Education: Part I/*R. E. S. Hayhoe*
TPS 1826H Comparative Higher Education: Part II/*R. E. S. Hayhoe*
TPS 1827H The Politics of Higher Education/*G. A. Jones*
TPS 1828H Evaluation in Higher Education/*J. L. Magnusson*
TPS 1829H Higher Technological Education and Training: A Comparative Perspective/*D. N. Wilson*
TPS 1830H Systematic Educational Planning for the Health Professions: Part I: Overview/*Staff*
TPS 1831H Systematic Educational Planning for the Health Professions: Part II: Further Development/*Staff*
TPS 1840H Economics of Higher Education/*Staff*
TPS 1841H Public Finance and Higher Education/*Staff*
TPS 1842H Higher Education and the Labour Market/*Staff*
TPS 1843H Higher Education and the Law/*M. A. Zuker*
TPS 1852H Individual Reading and Research in Higher Education: Master's Level/*Staff*
TPS 3806H Case Studies in Comparative Higher Education/*Staff*
TPS 3807H The University Under Communism/*R. E. S. Hayhoe*
TPS 3810H International Academic Relations/*R. E. S. Hayhoe*
TPS 3820H Special Topics in Higher Education: Doctoral Level/*Staff*
TPS 3852H Individual Reading and Research in Higher Education: Doctoral Level/*Staff*

***History of Education***

TPS 1400H The Origins of Modern Schooling I: Problems in Education Before the Industrial Revolution/*D. Levine*
TPS 1401H The Origins of Modern Schooling II: Problems in Nineteenth- and Twentieth-Century Educational History, Focus on Canada and the U.S.A./*H. M. Troper*
TPS 1402H History of Modern European Education/*Staff*
TPS 1403H History of Education in Canada/*E. M. Smyth*
TPS 1405H History of Education and Society: Selected Topics/*D. Levine, H. M. Troper*
TPS 1407H Mass Education in English History/*D. Levine*
TPS 1408H Elite Education in English History/*D. Levine*
TPS 1412H The History of Women and Higher Education/*Staff*
TPS 1415H The History of the Teaching Profession/*Staff*
TPS 1416H Ontario Education/*E. M. Smyth*
TPS 1418H The Role of Education in Theories of Women's Emancipation I/*Staff*
TPS 1419H Historiography and the History of Education/*D. Levine*

TPS 1420H European Popular Culture and the Social History of Education: I/*D. Levine*
TPS 1421H The History of Women and Education/*D. Levine, C. Morgan*
TPS 1422H Education and Family Life in the Modern World I/*D. Levine*
TPS 1424H Religion, Ideology, and Social Movements in the History of North American Education/*H. M. Troper*
TPS 1425H Class Formation and Its Relation to the Schools/*C. Morgan*
TPS 1426H The History of Women and Education in Canada/*C. Morgan*
TPS 1428H Immigration and the History of Canadian Education/*H. M. Troper*
TPS 1429H Ethnicity and the History of Canadian Education/*H. M. Troper*
TPS 1430H Gendered Colonialisms, Imperialisms and Nationalisms in History/*Staff*
TPS 1448H Popular Culture and the Social History of Education II/ *C. Morgan*
TPS 1452H Individual Reading and Research in the History of Education: Master's Level/*Staff*
TPS 1460H History and Educational Research/*Staff*
TPS 1461H Special Topics in History of Education/*Staff*
TPS 3418H The Role of Education in Theories of Women's Emancipation II/*Staff*
TPS 3423H Education and Family Life in the Modern World II/*D. Levine*
TPS 3428H Minority Concerns and Education in Canadian History: Selected Topics/*H. M. Troper*
TPS 3452H Individual Reading and Research in the History of Education: Doctoral Level/*Staff*
TPS 3461H Special Topics in History of Education/*Staff*
TPS 3490H Ed.D. Seminar in the History of Education I/*Staff*
TPS 3491H Ed.D. Seminar in the History of Education II/*Staff*
TPS 3494H Doctoral Practicum in the History of Education I/*Staff*
TPS 3495H Doctoral Practicum in the History of Education II/*Staff*

***Philosophy of Education***

TPS 1431H Theory of Knowledge in Educational Inquiry and Cognitive Science/*Staff*
TPS 1432H Knowledge, Mind, and Human Beings/*Staff*
TPS 1433H Freedom and Authority in Education/*Staff*
TPS 1434H Human Rights, Politics, and Education/*D. Misgeld*
TPS 1435H Democracy and Education/ *D. Misgeld*
TPS 1436H Modernity and Postmodernity in Social Thought and Education/ *D. Misgeld*
TPS 1437H Philosophical Aspects of the Development of Language and Thought/*Staff*
TPS 1439H Gender, Ethics, and Education: Philosophical Issues/*D. R. Boyd*
TPS 1440H An Introduction to Philosophy of Education/*M. Ford*
TPS 1441H Philosophical Dimensions of Moral Education/*D. R. Boyd*
TPS 1442H Cultural and Racial Difference in Education: Philosophical Perspectives/*D. R. Boyd*
TPS 1444H Human Rights and Education in an International Context/*D. Misgeld*
TPS 1446H The Teacher as Philosopher/ *D. R. Boyd*
TPS 1447H Technology in Education: Philosophical Issues/*Staff*
TPS 1449H The Theory of Law and the Teaching of Law in the Schools/ *Staff*
TPS 1450H Philosophy of Science and Science Education/*Staff*
TPS 1451H Theories of History and Social Inquiry in Education/*Staff*
TPS 1453H Individual Reading and Research in the Philosophy of Education: Master's Level/*Staff*
TPS 1459H Creativity and Education/*Staff*
TPS 1462H Women, Literature, and Education/*D. Bogdan*
TPS 1465H Special Topics in Philosophy of Education/*Staff*
TPS 1471H Critical Issues in Education: Philosophical Perspectives/*D. R. Boyd*
TPS 1482H The Nature and Development of Religious Knowledge in Education/*Staff*
TPS 1484H Philosophy of Literature and Literature Education/*D. Bogdan*
TPS 1485H Literature and Values in Education/*D. Bogdan*

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|---|---|
| TPS 1487H | Critical Discourses of Musical Experience and Education/ *D. Bogdan* |
| TPS 1488H | Feminist Theory, Musical Experience, and Music Education/ *D. Bogdan* |
| TPS 3417H | Research Seminar in Feminist Criticism, Aesthetics, and Pedagogy/*D. Bogdan* |
| TPS 3436H | Aesthetics and Education/ *D. Bogdan* |
| TPS 3441H | Research Seminar in Moral Education: Part I/*D. R. Boyd* |
| TPS 3443H | Research Seminar in Moral Education: Part II/*D. R. Boyd* |
| TPS 3447H | Theories of Modernity and Education I/*D. Misgeld* |
| TPS 3453H | Individual Reading and Research in the Philosophy of Education: Doctoral Level/*Staff* |
| TPS 3465H | Special Topics in Philosophy of Education/*Staff* |
| TPS 3480H | Ed.D. Seminar in the Philosophy of Education I/*Staff* |
| TPS 3481H | Ed.D. Seminar in the Philosophy of Education II/*Staff* |
| TPS 3484H | Doctoral Practicum in the Philosophy of Education I/*Staff* |
| TPS 3485H | Doctoral Practicum in the Philosophy of Education II/*Staff* |

# Urban and Community Studies

## Graduate Faculty

### Full Members

L. S. Bourne, BA, MA, PhD, FRSC, MCIP, Hon Causa/ Geography
E. W.-C. Fong, BA, MA, PhD/Sociology
J. D. Hulchanski, BA, MSc(Pl), PhD, MCIP/Planning, Social Work ***(Director)***
J. R. Miron, BA, MA, MSc, PhD/Geography
J. W. Salaff, BA, MA, PhD/Sociology
R. E. Stren, BA, MA, PhD/Political Science
B. Wellman, BA, MA, PhD/Sociology

### Associate Members

P. L. McCarney, BA, MCP, PhD/Political Science

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*Telephone:* (416) 978-2072
*Fax:* (416) 978-7162
*E-mail:* urban.centre@utoronto.ca
*Web:* www.utoronto.ca/env/cucs/

The Centre for Urban and Community Studies facilitates, coordinates, and disseminates multidisciplinary research and policy analysis on urban issues at the University of Toronto. Established in 1964, the Centre's research covers a wide range of areas relevant to the social and economic well-being of people who live and work in large and small urban areas within Canada and globally.

To facilitate research on global urban issues, the University of Toronto Urban International (UTUI) was established in 1995 within the Centre. UTUI seeks to link the University's expertise in the urban field to public and private sector institutions involved in urban policy-making.

As part of its mandate, the Centre undertakes to:

- encourage and facilitate multidisciplinary research;
- improve communications among university researchers and the urban community through conferences, lecture series, seminars, newsletters, and publications;
- contribute to building networks for research and policy debate among institutions and agencies,
- assist in finding research sponsors, in drafting proposals and negotiating contracts;
- serve as an outlet for academic publications to facilitate dissemination of research results;
- maintain contacts with other research institutions in Canada and abroad;
- provide research support and resources to faculty, graduate students and visiting scholars;
- represent the University, where appropriate, on external boards and public committees;
- administer grants and contracts and, where possible, provide space, facilities, accounting services, and support staff to researchers.

Although the Centre has no formal degree responsibilities, its faculty members all contribute to graduate programs in their home departments. Research activities in the Centre comprise both major programs, intended as areas of continuing interest involving an interdisciplinary team approach, and more focused, shorter-term projects, often undertaken by one or two people.

Current research themes include: housing markets and Canadian housing policy; urbanization and urban management in developed and developing countries; urban environment and sustainability; social networks and urban communities; computer networks and telework; social ecology, behaviour in the urban environment; social and spatial polarization; immigrant integration; child care, women and labour force participation; municipal administrative development; urban systems, urban growth and changing metropolitan form in Canada; urban public transport; geographic information systems and urban policy; regional policy and regional development.

The Centre maintains close working relationships with research programs and academic units both within and outside the University which have similar interests. Associate membership in the Centre is held by members of the University or the affiliated community who are engaged in urban research.

One of the main functions of the Centre is to make available academic research on urban affairs. It publishes research papers, bulletins, monographs, and books, and offers shorter papers and bulletins through its Web site.

For graduate students the Centre offers seminars on a wide range of urban and social science topics, the opportunity to publish papers in the Centre's series, access to publications and conferences at a reduced price, research training and assistantships, and information on data sources and research opportunities.

Publications lists and a brochure describing its activities and programs are available from the Centre.

# Women's Studies (Collaborative Program)

**Full Members**

R. Abramovitch, BA, MA, PhD/Psychology
J. Abray, BA, MA, MPh, PhD/History
S. Acker, BA, MA, PhD/Sociology & Equity Studies in Education
D. Affonso, BS, MN, MA, PhD/Nursing Science
P. D. Airhart, MA, PhD/Religion
E. K. Armatage, BA, MA, PhD/Drama
E. Auster, AB, SM, BEd, MEd, EdD/Information Studies
B. S. Baigrie, BA, MA, PhD/History & Philosophy of Science & Technology
S. B. Bashevkin, BA, MA, PhD/Political Science
C. L. Beghtol, BA, MLS, PhD/Information Studies
K. Bickmore, BA, MA, PhD/Curriculum, Teaching & Learning
J. P. Boddy, BA, MA, PhD/Anthropology
D. G. Bogdan, BA, MA, PhD/Theory & Policy Studies in Education
J. R. Brown, BA, MA, PhD/Philosophy
J. E. Caskey, AM, MA, MPh, PhD/History of Art
J. E. Chamberlin, BA, PhD, FRSC/English
J. M. Cherry, BSc, MLS, PhD/Information Studies
A. Clement, BSc, MSc, PhD/Information Studies
R. W. Cockerill, BA, MA, PhD/Health Policy, Management and Evaluation
M. M. Cohen, BSc, MHSc, MSc, MD, FRCP(C)/Health Policy, Management and Evaluation
A. L. Cole, BA, BEd, MEd, MEd, EdD/Adult Education, Community Development & Counselling Psychology
R. Comay, BA, MA, PhD/Philosophy
R. J. Cook, AB, MA, MPA, JD, LLM, JSD/Law
N. Copeland, BA, MA, PhD/Drama
B. H. Craig, BA, MA, PhD/Information Studies
M. J. A. Cuddy-Keane, BA, MA, PhD/English
A. Datnow, BA, PhD/Theory & Policy Studies in Education
K. Dehli, BA, MA, PhD/Sociology & Equity Studies in Education
M. L. Diamond, MSc, PhD/Geography
D. Dyzenhaus, BA, LLB, DPhil, FRSC/Law
M. Eichler, MA, LLD, PhD/Sociology & Equity Studies in Education ***(Director)***
K. Eisenbichler, BA, MA, PhD/Italian Studies
D. L. Esch, MA, PhD/English
R. B. Folson, PhD/Sociology & Equity Studies in Education
B. J. Fox, AB, PhD/Sociology
H. Fox, BA, BSc, MA, MS, PhD/Religion
H. Friedmann, AB, MA, PhD/Sociology
K. Gallagher, BA, BEd, MEd, PhD/Curriculum, Teaching & Learning
R. Gallop, BScN, MScN, PhD/Nursing Science
R. I. Gartner, BA, MS, PhD/Sociology
D. Gastaldo, BScN, MA(Ed), PhD/Nursing Science
D. Gérin-Lajoie, BSc, MA, PhD/Curriculum, Teaching & Learning
T. Goldstein, BA, PhD/Curriculum, Teaching & Learning
R. W. L. Guisso, BA, DPhil/East Asian Studies
G. Hadfield, BA, JD, PhD/Policy Analysis
E. D. Harvey, BA, MA, PhD/English
B. Havercroft, BA, MA, PhD/French Language & Literature
M. Hewitt, BA, MA, PhD/Religion
E. Hillan, RGN, BScN, RM, MPhil, MSc, PhD/Nursing Science
E. D. Hodnett, BSN, MScN, PhD, Reisman Chair in Perinatal Nursing Research/Nursing Science
L. C. Howarth, BA, MLS, PhD/Information Studies
P.-C. Hsiung, BA, MA, PhD/Sociology
J. D. Hulchanski, BA, MSc(PI), PhD, MCIP, I. R. Chow Yei Ching Social Work Chair in Housing/Social Work
L. A. M. Hutcheon, BA, MA, PhD, University Professor/English
F. Iacovetta, BA, MA, PhD/History
J. N. Ingham, BA, MA, PhD/History
J. Iseke-Barnes, PhD/Sociology & Equity Studies in Education
D. M. James, BA, MA, PhD/Linguistics
I. Kalmar, BA, MA, PhD/Anthropology
A. M. Keith, BA, PhD/Classics
B. Kidd, BA, AM, MA, PhD/Exercise Sciences
P. Kleber, BA, MA, PhD/Comparative Literature
M. E. Laiken, BA, MA, PhD/Adult Education, Community Development & Counselling Psychology
L. M. Lange, AB, MA, PhD/Philosophy
J. D. LeBlanc, MA, PhD/French Language & Literature
E. M. M. Legge, BA, MA, PhD/History of Art
H. Lenskyj, BA, MA, PhD/Sociology & Equity Studies in Education
R. L. Love, BA, MA, PhD/Public Health Sciences
H. V. Luong, BA, MA, PhD/Anthropology
J. L. Matus, BA, MA, PhD/English
B. S. McElhinny, PhD/Anthropology
C. T. McIntire, BA, MA, MDiv, PhD/Religion
P. D. McKeever, BN, MSc(A), PhD/Nursing Science
T. Meacham, BA, MA, PhD/Near & Middle Eastern Civilizations
A. R. Miles, BA, MA, PhD/Adult Education, Community Development & Counselling Psychology
C. J. Misak, BA, MA, DPhil, FRSC/Philosophy
S. Mojab, MEd, PhD/Adult Education, Community Development & Counselling Psychology
C. Morgan, BA, MA, PhD/Theory & Policy Studies in Education
K. P. Morgan, BA, MA, MEd, PhD/Philosophy
A. Mullin, BA, PhD/Philosophy
H. Murray, BA, MA, PhD/English
N. B. Musisi, PhD/History
L. J. Muzzin, BA, MA, MA, PhD/Theory & Policy Studies in Education
J. Nedelsky, BA, MA, PhD/Political Science
S. Neysmith, BSc, MSW, DSW/Social Work ***(Coordinator of Graduate Studies)***
R. Ng, BA, MA, PhD/Adult Education, Community Development & Counselling Psychology

J. Noel, BA, MA, PhD/History
M. E. Nyquist, BA, MA, PhD/English
J. M. Paterson, MA, PhD, FRSC/French Language & Literature
A. Percival, BA, MA, PhD/Spanish
C. E. Percy, BA, MA, DPhil/English
N. Piran, BA, PhD/Adult Education, Community Development & Counselling Psychology
D. M. Rayside, BA, AM, PhD/Political Science
S. Razack, BA, MA, PhD/Sociology & Equity Studies in Education
D. G. Réaume, BA, LLB, BCL/Law
C. Reynolds, BA, MA, PhD/Theory & Policy Studies in Education
A Ripstein, BA, PhD, MSL/Law
A. Robertson, BSc, DPH, PhD/Public Health Sciences
C. Rogerson, BA, LLB, MA, LLM/Law
C. I. R. Rubincam, BA, PhD/Classics
S. Ruddick, BES, MA, PhD, MCIP/Geography
A. Sakaki, MA, PhD/East Asian Studies
J. W. Salaff, BA, MA, PhD/Sociology
G. Sanguinetti-Katz, DLett, MA, PhD/Italian Studies
R. Sarabia, BA, MA, PhD/Spanish
M. S. Schneider, BA, MA, PhD/Adult Education, Community Development & Counselling Psychology
A. Sev'er, BA, MA, PhD/Sociology
W. D. Shaw, BA, AM, PhD, FRSC/English
K. Sieciechowicz, BA, MA, PhD/Anthropology
E. M. Smyth, BA, BEd, MA, EdD/Curriculum, Teaching & Learning
P. Sperdakos, BA, MA, PhD/Drama
L. Stermac, BSc, MA, PhD/Adult Education, Community Development & Counselling Psychology
C. Strange, BA, MA, PhD/Criminology
R. Sullivan, BA, MA, PhD, Canada Research Chair/ English
L. W. Sumner, BA, MA, PhD, FRSC/Philosophy
B. J. Todd, BA, MA, PhD/History
D. R. Townsend, BA, MA, PhD/Medieval Studies
D. A. Trotz, BA, MPhil, PhD/Sociology & Equity Studies in Education
M. Valverde, BA, MA, PhD/Criminology
S. Van Kirk, BA, MA, PhD/History
L. Viola, BA, MA, PhD/History
L. E. Weinrib, BA, LLB, LLM/Law
S. Welsh, BA, MA, PhD/Sociology
M. Williams, AB, AM, PhD/Political Science

**Members Emeriti**

J. L. Aitken, PhD/Curriculum, Teaching & Learning
R. F. Badgley, MA, PhD/Public Health Sciences
C. Bertrand-Jennings, L ès L, PhD/French Language & Literature
N. T. Boursier, DES, CAPES, D IIIe C/French Language & Literature
N. Davis, BA, MA, PhD, FAmAcAs, CFBrAc/History
A. Gombay, BA, MA, BPhil/Philosophy
R. C. Hutchinson, BSc, BD, MA, ThD/Religion
E. M. Leonard, BA, MA, PhD/Religion
R. R. Pierson, PhD/Sociology & Equity Studies in Education
A. Prentice, BA, MA, PhD/Theory & Policy Studies in Education
J. Savona, L ès L, DES, CAPES, D de L'U/French Language & Literature
D. E. Smith, PhD/Sociology & Equity Studies in Education
M. J. Valdés, BA, MA, PhD, FRSC, Miembro Correspondiente de la Academia Mexicana/Comparative Literature

**Associate Members**

S. Abraham, BA, MA, PhD/Sociology
R. Alaggia, BA, MSW, PhD/Social Work
J. Angus, RN, BScN, MScN, PhD/Nursing Science
M. J. De Souza, BS, MS, PhD/Exercise Sciences
J. Dillabough, BA, MA, PhD/Curriculum, Teaching & Learning
K. Goonewardena, BSc, MPl, PhD/Geography
K. R. Jasper, MEd, MA, PhD/Adult Education, Community Development & Counselling Psychology
P. Klassen, BA, MA, MPhil, PhD/Religion
R. Labonte, BA, MEd, MA/Public Health Sciences
M. L. Lobsinger, BArch, MArch/Architecture, Landscape, and Design
N. Morgenstern, BA, MA, PhD/English
G. Petricone, BArch, MArch/Architecture, Landscape, and Design
B. G. Pronger, BA, MSc, PhD/Exercise Sciences
K. N. Rankin, BA, MRP, PhD/Geography
K. Rittich, MusBac, LLB, SJD/Law
R. Roberts, MSW, DASW, EdD, ResDipSW, CSW/ Social Work
N. N. Wane, PhD/Sociology & Equity Studies in Education
D. E. White, BA, MA, PhD/English

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**Nature of the Collaborative Program**
Graduate units from the Humanities, Social Sciences, and Life Sciences participate in the Graduate Collaborative Program in Women's 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 Institute for Women's Studies and Gender Studies (IWSGS).

The Graduate Collaborative Program in Women's Studies (GCWS) provides a formal educational context for the pursuit of interdisciplinary research in women's 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 women's studies research through student and faculty research seminars, colloquia, circulation of work in progress, study groups, conferences, and publications. GCWS contributes to the development of an integrated research community in women's studies at the University of Toronto.

The Graduate Collaborative Program in Women's Studies brings together 25 graduate units providing more than 100 courses and involving over 100 faculty. Students must be admitted to, and enrol in, one of the collaborating units, and must fulfill all the degree requirements in the home department. Students who successfully complete the requirements of the collaborative program will receive the notation "Completed Collaborative Program in Women's Studies" on their transcript, in addition to the master's or doctoral degree from their home graduate unit.

Programs of study should be planned in consultation with the GCWS 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. Theses will be supervised and evaluated in the same manner as those in the home graduate unit. Normally, at least one graduate faculty member affiliated with GCWS will be a member of the thesis or supervisory committee of students in the program.

**Admission Requirements**
- familiarity with the approaches and methodologies associated with scholarship in Women's Studies, OR
- extensive familiarity with Women's Studies scholarship in a single discipline or a cognate set of disciplines

Collaborating units send to GCWS a copy of all student files (application, offer of admission, etc.)

The GCWS Coordinator reviews the file and, if approved, a letter of acceptance outlining the course requirements for the Program, is sent to the candidate and the collaborating unit.

To be submitted to GCWS by the applicant:
**1** *Non-Thesis Master's*
- GCWS "request for admission" form (available from GCWS or department)

**2** *Thesis Master's*
- GCWS "request for admission" form (available from GCWS or department)
- Statement of research intent for thesis in Women's Studies

**3** *Doctor of Philosophy*
To be considered for admission to the Graduate Collaborative Program in Women's Studies at the doctoral level, applicants must demonstrate extensive familiarity with relevant scholarship in women's studies at both the undergraduate and graduate levels. Applicants who lack a strong background in the field of women's studies may be required to do special course work to qualify.

To be submitted to GCWS:
- GCWS "request for admission" form (available from GCWS or department)
- undergraduate and graduate transcripts from all institutions attended previously and currently
- two letters of reference (with special mention of the applicant's women's studies background)
- résumé
- a letter explaining how their program of study and specific research interests relate to women's studies at the doctoral level (maximum 400 words)

Applicants are encouraged to apply simultaneously to the collaborating graduate unit and to GCWS.
**4** Ad hoc arrangements are possible with non-collaborating departments.

**Program Requirements**

***Master's Degrees***
**1** *Non-Thesis Master's Degree*
- JPW 2118H *Philosophical Foundations of Women's Studies* or equivalent
- one full course (Y course) selected from the cross-listed courses in GCWS

**2** *Thesis Master's Degree*
- JPW 2118H *Philosophical Foundations of Women's Studies* or equivalent

- one half-course (H course) selected from the cross-listed courses in GCWS
- the thesis, or major paper, dealing with a subject in the field of women's studies

***Doctoral Degrees***

- JPW 2118H *Philosophical Foundations of Women's Studies* or equivalent (if not already completed)
- JPW 3000H *Advanced Research Seminar*
- one half-course (H course, not taken previously) from the list of cross-listed courses in GCWS
- the doctoral thesis dealing with a subject in the field of women's studies

**Courses of Instruction**

***Required Courses***

JPW 2118H Philosophical Foundations of Women's Studies/*K. Morgan*
JPW 3000H Advanced Research Seminar in Women's Studies/*S. Neysmith*

***Cross-listed Courses***

Women's studies courses 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, Community Development and Counselling Psychology***

AEC 1104H Community Education and Organizing/*A. Miles*
AEC 1113H Gender and Hierarchy at Work/ *K. Mirchandani*
AEC 1131H Gender and Hierarchy at Work/ *K. Mirchandani*
AEC 1143H Introduction to Feminist Perspectives on Society and Education/ *A. R. Miles, Staff*
AEC 1146H Women, Globalization, and Citizenship/*S. Mojab*
AEC 1156H Power and Difference in the Workplace/*S. Mojab*
AEC 1207H Counselling Topics in Sexual Orientation and Gender Identity Diversity/*J. R. Gillis*
AEC 1253H Feminist Issues in Counselling Psychology and Psychotherapy/ *L. Stermac, Staff*
AEC 1254H Contemporary Issues in Human Sexuality and Sex Education/ *M. Schneider*
AEC 1257H Females' Psychological Development/*Staff*
AEC 3119H Global Perspectives on Feminist Education, Community Development, and Community Transformation/*A. R. Miles, Staff*
AEC 3132H Special Topics in Women in Development and Community Transformation/*Dame N. Barrow (Distinguished Visitor)*

***Anthropology***

Student must complete "Individual Reading and Research Course Form" before enrolling (available from department)

ANT 6050H Reading Course in Specific Area and Theory I/*Staff*
ANT 6051H Reading Course in Specific Area and Theory II/*Staff*
ANT 6052Y Reading Course in Specific Area and Theory III/*Staff*
JAL 1155H Language and Gender/ *B. McElhinny*

***Comparative Literature***

COL 5025H Feminism and Postmodernism/ *B. Havercroft*
COL 5026H The Diaries of Literary Women: from Theories of Autobiography to Genetic Criticism/*J. LeBlanc*

***Criminology***

CRI 1020H Law and Society: Theoretical Perspectives/*Staff*

***Curriculum, Teaching and Learning***

CTL 1012H Curriculum for Girls and Young Women: Historical and Contemporary Issues/*E. Smyth*
CTL 1309H Les stéréotypes sexuels dans les programmes scolaires/*D. Gérin-Lajoie*
CTL 1310H Feminist Theory, Identity Politics and Contemporary Educational Thought/*J. Dillabough*
CTL 1311H Gender Education and Nationhood: An International Feminist Dialogue/*J. Dillabough*
CTL 1313H Gender Equity in the Classroom/ *Staff*
CTL 1840H Gender Issues in Mathematics, Science, and Technology/ *G. Hanna*
CTL 4803Y Women as Change Agents in Educational Systems/*J. Aitken*
CTL 5009H Approaches to Women's Writing/ *H. Murray*

***Drama***

DRA 1000Y History of the Theatre: Research Methods and Materials/ *J. Astington, N. Copeland*

***English***

ENG 4625Y Gender and Genre in Nineteenth-Century Literature/*W. D. Shaw*

ENG 5045H Social Reform, Socialist, and Suffragist Writings of Nineteenth Century and Turn of the Century English-Canada/*H. Murray*

ENG 5737H Studies in Three Canadian Authors: Elizabeth Smart, Gwendolyn MacEwen, and Margaret Atwood/*R. Sullivan*

ENG 5583H The Traffic in Women: Gender and Sexuality in Late Nineteenth- and Early Twentieth-Century Fiction/*N. Morgenstern*

***French***

FRE 2035H Autour de l'intime en France: les écrits contemporains des femmes/*B. Havercroft*

FRE 2103H La nouvelle québécoise contemporaine: l'émergence des voix féminines/*M. Lord*

***Geography***

GGR 1801H Social Identities and Space/*Staff*

JPG 1506H State/Space/Difference: Understanding the New Social Geography of the State/ *S. Ruddick*

JPG 1509H Gender Planning and International Development/*K. N. Rankin*

***Health Policy, Management and Evaluation***

JNH 5001H Health Care Settings: Issues, Concepts, Measures, and Policies/*P. C. Coyte, P. McKeever*

***History***

HIS 1101H Race and Gender in the Northern Colonies of North America/ *J. Noel*

HIS 1153H Topics in Women's History/ *S. Van Kirk*

HIS 1154H Directed Research in Women's History/*S. Van Kirk*

HIS 1167H Selected Topics in Gender History/*F. Iacovetta*

HIS 1269H Gender, Race and Nation: Rewritings of the History of Nations/Nationalisms in Modern Europe and beyond/ *K. Hagemann*

HIS 1230H History of the Sexes in the Western World,/*J. Abray*

HIS 1245H Women in Early Modern Europe/ *B. Todd*

HIS 1528H Crossing Boundaries: Race, Ethnicity, Class and Gender in America, 1880-1930/*J. Ingham*

***Information Studies***

FIS 1330H Archives Concepts and Issues

FIS 2010H Reading Course/*Staff*

FIS 2011H Reading Course/*Staff*

FIS 2174H History of Records and Records-Keeping

***Law***

LAW 294H International Human Rights Law/ *M. P. Macklem*

LAW 301H International Women's Rights/ *R.J. Cook*

LAW 334H Feminist Theory: Challenges to Legal and Political Thought/*J. Nedelsky*

LAW 372H Judgement in Law and Politics/ *J. Nedelsky*

LAW 386H Reproductive Health Law/*R.J. Cook, B.M. Dickens*

***Near and Middle Eastern Civilizations***

NMC 1608Y Topics in Jewish Legal and Social History/*T. Meacham*

NMC 1609Y Gender Issues in Jewish Law and Religion/*T. Meacham*

NMC 2035Y Women and Writing in Twentieth-Century Iran/*R. Sandler*

***Nursing***

NUR 1021H Nursing Ethics/*E. Peter*

NUR 1039H Women's Health Across the Lifespan/*K. Hardie*

NUR 1040H Issues in Women's Health Care/ *J. Angus*

NUR 1043H Theories of Interpersonal Process/*R. Gallop*

NUR 1068H Youth and Mental Health Promotion/*N. Khanlou*

***Philosophy***

PHL 2140H Feminist Philosophy/*L. Lange*

PHL 2143H Social Philosophy/*K. P. Morgan*

PHL 2144H Seminar in Social Philosophy: Post/colonial Studies in Philosophy/*L. Lange*

PHL 2151H Aesthetics: Relations between Art, Truth, Morality and Politics/ *A. Mullin*

***Political Science***

JPJ 2119Y Numbers, Voice and Representation: Women and Public Policy in Comparative Perspective/*S. Bashevkin*
POL 2024Y Feminist Theory/*J. Nedelsky*
POL 2032H Judgement in Law and Politics/*Staff*
POL 2038Y Problems of Pluralism and Equity/*M. Williams*
POL 2316H Women and Politics/*S. Bashevkin*

***Public Health Sciences***

CHL 5109H Gender and Health/*R. Love, Staff*
CHL 5117H A Global Perspective on the Health of Women and Children/*C. G. Chalin*

***Religion***

RLG 2021H Historiography of Religions/*C. T. McIntire*
RLG 2025H Critical Social Theory and Feminist Religious Thought/*M. Hewitt*

***Social Work***

SWK 4403H Women and Social Policy in Canada/*S. Neysmith*
SWK 4422H Social Housing and Homelessness/*J. D. Hulchanski*
SWK 4503H Advanced Social Work Research
SWK 4609H Sexuality, Sexual Diversity and Social Work Practice/*Staff*
SWK 4623H Violence in Families: Multilevel Intervention in Interdisciplinary Practice/*R. Roberts*
SWK 4624H Feminist Social Work Practice/*Staff*

***Sociology***

SOC 6017H Sociology of Families I/*Staff*
SOC 6117H Sociology of Families II/*Staff*
SOC 6019H Gender Relations I/*Staff*
SOC 6119H Gender Relations II/*Staff*

***Sociology and Equity Studies in Education***

SES 1909H Eco-Sociology/*M. Eichler*
SES 1912H Foucault and Research in Education: Discourse, Power and the Subject/*K. Dehli*
SES 1923H Racism, Law, and Radical Education/*S.H. Razack*
SES 1926H Race, Space and Citizenship: Issues for Educators/*S. Razack*
SES 1927H Globalization-Migration-Integration: Race and Gender Relations/*R. Baaba Folson*
SES 1956H Social Relations of Cultural Production in Education/*R. Walcott*
SES 1954H Marginality and the Politics of Resistance/*S. H. Razack*
SES 1956H Social Relations of Cultural Production in Education/*R. Walcott*
SES 1981H Feminist Scholarship and Education/*Staff*
SES 1982H Women, Diversity, and the Educational System/*S. Acker, H. Lenskyj*
SES 1983H Gender, Race and Historical Sociology/*Staff*
SES 1985H Women's Learning, Women's Health Movements, and the Health Professions/*H. Lenskyj*
SES 1986H Women, Education and Leadership: Feminist Perspectives/*H. Lenskyj*
SES 1988H Diversity and Social Justice Issues in Physical Education, Recreation and Sport/*H. Lenskyj*
SES 1989H Black Feminist Thought/*N. Wane*
SES 2910H Changes in Families and Policy Consequences for Government and Education/*M. Eichler*
SES 2912H Teacher's Work: Classrooms, Cultures and Change/*S. Acker*
SES 2914H Education, Gender Relations, and Masculinity/*Staff*
SES 2999H Special Topics in Sociological Research in Education/*D. A. Trotz*
SES 3912H Race and Knowledge Production Issues in Research/*S. Razack*
SES 3913H En/Coding Domination: Theorizing Power Relations Based on Race, Gender, Class and Sexuality/*R. B. Folson*
SES 3920Y The Politics of Representation and Pedagogies of 'Difference'/*K. Rockhill, Staff*
SES 3921H Language and Social Difference in Education: Comparative Perspectives/*M. Heller*
SES 3930H Advanced Seminar on Feminist Methodology and Education/*M. Eichler*
SES 3931H Feminism and Poststructuralism in Education/*K. Dehli*
SES 3932H Contemporary Perspectives on Women and Higher Education/*S. Acker*
SES 3943H Sociology of State Formation and Genealogies of Government/*K. Dehli*

SES 3944H Language and Gender in Education/*M. Heller*
SES 3952H Sexism, Racism, Colonialism: Pedagogical Implications/*D. A. Trotz*
SES 3999H Special Topics in Advanced Sociological Research in Education/*M. Eichler*

***Spanish***
SPA 2278H Contemporary Hispanic Women's Writing I/*A. Percival*
SPA 2279H Contemporary Hispanic Women's Writing II/*A. Percival*
SPA 2805H Representations of Women in Latin American Culture/ *R. Sarabia*

***Theory and Policy Studies in Education***
TPS 1412H The History of Women and Higher Education/*Staff*
TPS 1418H The Role of Education in Theories of Women's Emancipation I/ *Staff*
TPS 1421H The History of Women and Education/*D. Levine, C. Morgan*
TPS 1426H The History of Women and Education in Canada/*C. Morgan*
TPS 1430H Gendered Colonialisms, Imperialisms and Nationalisms in History/*Staff*
TPS 1439H Gender, Ethics, and Education: Philosophical Issues/*D. R. Boyd*
TPS 1487H Critical Discourses of Musical Experience and Education/ *D. Bogdan*
TPS 1488H Feminist Theory, Musical Experience, and Music Education/ *D. Bogdan*
TPS 3417H Research Seminar in Feminist Criticism, Aesthetics, and Pedagogy/*D. Bogdan*
TPS 3418H The Role of Education in Theories of Women's Emancipation II/*Staff*

# Wood Products Engineering (Collaborative Program)

**Advisory Committee**
To be determined

**Participating Faculty**
P. A. Cooper, BScF, MSc, PhD/Forestry
M. T. Kortschot, BASc, MASc, PhD, PEng/Chemical Engineering and Applied Chemistry
M. Sain, BSc, BASc, MTech, PhD, PEng/Forestry
J. K. Spelt, BASc, MASc, ME, PhD, PEng/Mechanical and Industrial Engineering
N. Yan, BASc, PhD/Forestry

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*Fax:* (416) 978-3834
*E-mail:* gradprog@forestry.utoronto.ca
*Web:* www.forestry.utoronto.ca

**Nature of the Collaborative Program**
The graduate departments of Forestry, Chemical Engineering and Applied Chemistry, and Mechanical and Industrial Engineering participate in the Collaborative Master's Program in Wood Products Engineering. This program is directed to building an understanding of the material properties and science of wood and wood processing on the strong science and engineering backgrounds of M.Sc.F./M.A.Sc. candidates. Students in the program will take a number of core courses and will work with a participating "industry partner" company during an internship to define problems for field and laboratory research and thesis preparation. The participating departments contribute courses and provide facilities and major supervision, through participating faculty members, for graduate research.

Upon successful completion of the master's degree requirements of the home department, as well as the Wood Products Engineering Program requirements, students receive the notation "Completed Collaborative Master's Program in Wood Products Engineering" on their transcript.

**Application Procedure**
Candidates for the program must first apply to and be accepted into a master's degree program of one of the collaborating departments, i.e., the M.Sc.F. program in Forestry or the M.A.Sc. program in either Chemical Engineering and Applied Chemistry or Mechanical and Industrial Engineering, under the research supervision of one of the participating faculty members. (See departmental entries in this calendar for details on admission and degree requirements.) Following registration in one of the collaborating departments, candidates interested in the Collaborative Program should consult with the Wood Products Engineering Program Director and may then apply for admission to the Collaborative Program. This application should be submitted no later than the end of the first term of study. Instructions regarding application format are available from the Director and from participating faculty members.

**Program Requirements**
Students in the program must complete the three Wood Products Engineering Program core courses: FOR 1280H, FOR 1290H and JCI 1321H. Generally, students will be expected to fulfil the course requirements of both the program and the home department. However, it is anticipated that in most cases, course work required by the Collaborative Program will serve, in part, to fulfil departmental requirements. Student programs are conditional on approval of the student's supervisor, the home department, and the Wood Products Engineering Program Advisory Committee.

In addition, students will define an industrial problem during a three- to six-month internship (under JFE 1300H) with a wood products company and will prepare and successfully defend a research thesis addressing the problem.

See also departmental entries for M.Sc.F./M.A.Sc. degree requirements.

**Courses of Instruction**
The following core courses will be offered each year in support of the Wood Products Engineering Program.

| | |
|---|---|
| FOR 1280H | Wood Products and Processing/ *P.A. Cooper* |
| FOR 1290H | Wood Material Science/*P. A. Cooper, Staff* |
| JCI 1321H | Wood Engineering/*J. Spelt, M. Kortschot* |
| JFE 1300H | Wood Products Engineering Internship (Credit/No Credit)/ Staff |

# Zoology ZOO

## Graduate Faculty

### Full Members

P. A. Abrams, BS, PhD
T. M. Alloway, BA, MA, PhD
M. C. B. Andrade, BSc, MSc, PhD
H. L. Atwood, BA, MA, PhD, DSc, FRSC
A. J. Baker, BSc, MSc, PhD
R. L. Baker, BSc, MSc, PhD
F. M. Barrett, BSc, MSc, PhD
R. Boonstra, BSc, PhD
D. R. Brooks, BS, MS, PhD
I. R. Brown, BSc, PhD, Canada Research Chair
T. J. Brown, BSc, PhD
L. T. Buck, BSc, PhD
D. R. Calder, AM, BSc, PhD
D. H. Collins, BSc, PhD
N. C. Collins, BA, PhD
D. C. Currie, BSc, PhD
H. Cyr, BSc, MSc, PhD
D. C. Darling, BSc, MSc, PhD
T. Day, BSc, MSc, PhD
S. S. Desser, BSc, MSc, PhD
D. W. Dunham, BS, PhD
R. P. Elinson, BA, PhD
M. D. Engstrom, BS, MS, PhD
M.-J. Fortin, BSc, MSc, PhD
J. H. Fullard, BSc, MSc, PhD
D. L. Gibo, BA, MA, PhD
D. Godt, MSc, PhD
M. R. Gross, BSc, PhD
D. T. Gwynne, BSc, PhD
R. I. C. Hansell, BSc, PhD
D. A. Jackson, BSc, MSc, PhD
***(Associate Chair, Graduate Affairs)***
A. B. Lange, BSc, PhD
E. W. Larsen, BSc, MSc, PhD
M. Locke, BA, BSc, PhD
D. A. Lovejoy, BSc, PhD
A. C. Mason, BSc, MSc, PhD
C. McGowan, BSc, PhD
D. A. McLennan, BSc, MSc, PhD
G. K. Morris, BSA, MSc, PhD
R. W. Murphy, BA, MA, PhD
D. H. O'Day, BSc, MSc, PhD
I. Orchard, BSc, PhD, DSc
B. H. Pomeranz, BSc, MD, CM, PhD, DSc
M. R. Ralph, BSc, PhD
R. R. Reisz, BSc, MSc, PhD
M. J. Ringuette, BSc, PhD
J. D. Rising, BA, PhD
F. H. Rodd, BSc, MSc, PhD
P. A. Romans, BSc, MSc, PhD
L. Rowe, BSc, MSc, PhD
S. J. Shettleworth, BA, MA, PhD
J. J. B. Smith, BA, MA, PhD
S. M. Smith, BSc, MSc, PhD
M. Sokolowski, BSc, PhD, FRSC, Canada Research Chair
W. G. Sprules, BSc, MA, PhD
R. Stephenson, BSc, PhD
B. A. Stewart, BSc, MSc, PhD
H.-D. Sues, AM, MSc, PhD
U. Tepass, MSc, PhD
J. D. Thomson, AB, MS, PhD
***(Chair)***
S. S. Tobe, BSc, MSc, PhD, FRSC
F. J. Vaccarino, BSc, MSc, PhD
S. L. Varmuza, BSc, MSc, PhD
J. T. Westwood, BSc, MSc, PhD
D. D. Williams, BSc, MSc, PhD, DSc
R. Winklbauer, DipBiol, PhD
M. P. Winsor, AB, MPh, PhD
R. Winterbottom, PhD
J. S. Yeomans, BA, PhD
J. H. Youson, BA, MSc, PhD
A. P. Zimmerman, BA, PhD

### Members Emeriti

D. G. Butler, BSc, MSc, PhD, DSc, FIBiol
P. E. Hallett, BSc, BM, MA
H. H. Harvey, BSc, MSc, PhD
R. A. Liversage, BA, AM, AM, PhD
Y. Masui, BSc, MSc, PhD, FRS
N. Mrosovsky, BA, PhD

### Associate Members

J. C. Barlow, BA. MA, PhD
G. L. Boulianne, BSc, PhD
K. A. Coates, MSc, PhD
B. A. Henderson, BSc, MSc, PhD
N. P. Lester, BA, MSc, PhD
C. K. Minns, BSc, PhD
M. S. Ridgway, BSc, MSc, PhD
S. Rotzinger, BSc, MA, PhD
B. Shuter, BSc, MSc, PhD
K. M. Somers, BSc, MSc, PhD
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The Department of Zoology offers graduate training in the following research sections:
Genetics, Cellular and Developmental Biology
Ecology and Behaviour
Evolutionary Biology
Physiology

The work of each student will ordinarily fall within one of these areas. With the approval of the Associate Chair, an individual research/reading course (ZOO 1002H,Y) may be arranged with faculty in one of the research sections where a formal graduate course in that area is not already available. Permission is required to take this course more than once for credit in a degree program.

**Admission Requirements**

Applicants to the Master of Science and Doctor of Philosophy degree programs are accepted under the general regulations. Applicants to the M.Sc. program must have at least a mid-B average in each of the last two years' equivalent of study (five full courses each). An elementary but competent knowledge of physics and chemistry will be required, and a knowledge of the general field of biology must be demonstrated. It is the student's responsibility to arrange for supervision by contacting potential supervisors. Exceptional students are encouraged to enter the Ph.D. program directly from the B.Sc. Students may also transfer to the Ph.D. program from the M.Sc. program.

**Program Requirements**

When arranging their course and research programs with their supervisors, M.Sc. and Ph.D. candidates may consult the Department's Associate Chair for Graduate Affairs. The entire course of study must be approved by the student's advisory committee and the Department.

Students wishing to take a minor in this Department should discuss the requirements with the faculty concerned and should obtain the approval of the Associate Chair.

***Degree of Master of Science***

M.Sc. candidates are required to take at least one graduate full-course equivalent in Zoology or another cognate graduate unit. Included must be one designated core half-course. Completion and defence of a thesis is required.

The Department encourages graduate students to complete M.Sc. degree requirements within two years of admission.

***Degree of Doctor of Philosophy***

Ph.D. candidates are required to take at least two graduate full-course equivalents. Included must be one designated core half-course. Students entering the Ph.D. program directly from the B.Sc. or transferring from the M.Sc. program, are normally required to take the equivalent of at least two graduate full courses. Ph.D. candidates undergo an appraisal (qualifying examination) within 18 months of embarking on the program. Candidates transferring from an M.Sc. to a Ph.D. program must pass the appraisal before the transfer is approved. Completion and defence of a thesis is required.

The Department encourages graduate students to complete Ph.D. degree requirements within four years of admission.

**Collaborative Programs**

The Department of Zoology participates in four collaborative programs:

**1** Developmental Biology
**2** Environmental Studies
**3** Neuroscience
**4** Toxicology

A M.Sc. or Ph.D. degree program may be taken in Environmental Studies, Neuroscience, or Toxicology through this Department. A Ph.D. degree program in Developmental Biology is available through this Department. For more details, consult the separate entries in this calendar.

**Courses of Instruction**

Not all courses listed are offered in a given year. Please consult course instructor(s).

***Courses Offered at the Graduate Level Only***

ZOO 1000H Advanced Biostatistics for Biologists/*M.-J. Fortin*
ZOO 1002H,Y Advanced Research and Reading Course (may be taken only once for credit)/*Staff*
ZOO 1014H Advanced Ecology/*P. Abrams, H. Cyr, H. Rodd*
JDB 1025Y Developmental Biology/*Staff*
ZOO 1500H Philosophical and Practical Problems in Ecological/Evolutionary Research/*N. C. Collins*
ZOO 1501H The Biology of Signal Transduction/*D. H. O'Day, A. B. Lange*
ZOO 1502Y Molecular Entomology/*P. A. Romans*
ZOO 1504H Species and Speciation/*D. Brooks, D. McLennan, R. Winterbottom*
ZOO 1505H Development of Evolutionary Thought/*Staff*
ZOO 1506H Concepts in Developmental Biology/*D. Godt, E. Larsen, M. Ringuette, P. Romans, U. Tepass, S. Varmuza*

ZOO 1511Y Systematic Entomology/*D. C. Darling* (students wishing to take this course should consult the instructor in the spring session preceding registration; a collection of insects is required)
ZOO 1516H Seminar in Ecology/*W. G. Sprules, N. C. Collins, R. L. Baker*
JZB 1520Y Evolutionary Biology/*Staff of Botany and Zoology*
ZOO 2215H Insect Behaviour/*G. K. Morris, T. M. Alloway*
ZOO 2216H Bioacoustics/*G. K. Morris*

***Graduate Courses with Significant Undergraduate Content***

ZOO 1004Y Vertebrate Palaeontology/*H.-D. Sues*
ZOO 1013Y Limnology/*A. P. Zimmerman*
ZOO 1018Y Ichthyology: Systematics and Distribution/*E. J. Crossman, R. Winterbottom*
ZOO 1024Y Comparative Endocrinology/*D. G. Butler*
ZOO 1503H Foundations of Phylogenetics/*Staff*
ZOO 1462H Phylogenetic Systematics/*R. W. Murphy, D. C. Darling*
JZB 1521H Molecular Evolution/*A. J. Baker, D. M. Irwin*

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