At McMaster our purpose is the discovery, communication and preservation of knowledge. In our teaching, research, and scholarship, we are committed to creativity, innovation and excellence. We value integrity, quality, inclusiveness and teamwork in everything we do. We inspire critical thinking, personal growth, and a passion for lifelong learning. We serve the social, cultural, and economic needs of our community and our society.

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Using the Calendar

Please read carefully all sections in this Calendar which pertain to your residency at McMaster University.

The first sections describe University-wide procedures and regulations. These are Sessional Dates, Degrees, Courses and Programs, Degrees by Program, Glossary, Admission Requirements, Application Procedures and Academic Regulations, Senate Policy Statements and Financial Information.

The next sections begin with descriptions of the Arts and Science Program, the DeGroote School of Business, the Engineering, Health Sciences, Humanities, Science, Social Science Faculties and the Combined B.A. Program in Indigenous Studies. The program section concludes with a description of Interdisciplinary Minors and Thematic Areas, Part-Time Degree Studies and Certificate and Diploma Programs. Each program section describes the undergraduate degree program requirements by department. The Course Listings section completes the academic part of the Calendar.

When choosing your courses, please be careful to note all prerequisites, antirequisites, corequisites and cross-listings; they may have a significant impact on your program. If you are not sure of the meanings of these terms, please consult the Glossary section of the Calendar.

Information about awards, scholarships, bursaries, loan funding, University services, the libraries, residences, computing facilities, and student activities and organizations are included in the latter sections of this Calendar.
Directory for Correspondence and Enquiries

Mailing Address
McMaster University
Hamilton, Ontario, L8S 4L8
Canada

Telephone: (905) 525-9140

Web Address: http://www.mcmaster.ca

The following is a list of University offices (with the appropriate postal code) and administrative staff members that are most frequently contacted. Other offices and services, with their addresses, telephone numbers, and email or web addresses (where available) are described throughout the Calendar.

Admissions Office (Undergraduate Studies)
Associate Registrar (Admissions): Lynn Giordano
Gilmour Hall, Room 108, L8S 4L8, ext. 24798; Fax: (905) 527-1105

Student Liaison
Associate Registrar (Liaison): Patricia Harris
Gilmour Hall, Room 102, L8S 4L8, ext. 23650; Fax: (905) 524-3550

Student Financial Aid and Scholarships
Director: Elizabeth Seymour
Gilmour Hall, Room 120, L8S 4L8, ext. 24319

Transcripts and Records
Gilmour Hall, Room 108, L8S 4L8, ext. 24798; Fax: (905) 527-1105

Examinations, Schedules and Classroom Reservations
Associate Registrar (Schedules and Examinations): Ruth Toth
Gilmour Hall, Room 114, L8S 4L8, ext. 24453; Fax: (905) 527-1105

Office of the Associate Vice-President (Student Affairs) and Dean of Students
Associate Vice-President (Student Affairs and Dean of Students): Philip Wood
Gilmour Hall, Room 207, L8S 4L8, ext. 27455

School of Graduate Studies
Dean of Graduate Studies: Fred L. Hall
Gilmour Hall, Room 212, L8S 4L8, ext. 23679

Centre for Continuing Education
Director: Tracey Taylor-O'Reilly
Downtown Centre, Second Floor, ext. 24321

Alumni Association
Director of Alumni Advancement: Rod Morrison
President's Residence, L8S 4K1, ext. 23900

Housing and Conference Services
Director of Housing and Conference Services: Catherine Miller
Commons Building, Room 101, L8S 4K1, ext. 24223

Off-Campus Resource Centre
McMaster University Student Centre, Room B112, L8S 4S4, ext. 24086

Hospitality Services
Director: Albert Ng, ext. 23836
Commons Building, Room 116, L8S 4K1
Mac Express Inquiries: ext. 27446

Centre for Student Development
Director: Desmond Poyat
McMaster University Student Centre, Room B107, L8S 4S4, ext. 24711

Services for Students with Disabilities
Manager, Disability Services and University Advisor on Disability Issues: Tim Nolan
Program Coordinator (Learning Specialist) Learning Disabilities: Indrani Reddy
McMaster University Student Centre, Room B107, L8S 4S4, ext. 24711

Career Services
Manager: Lisa Boniface
Gilmour Hall, Room 110, L8S 4L8, ext. 24254

Advice for Overseas and Exchange Students
International Student Services Supervisor/Advisor: Marcos Costa
Gilmour Hall, Room 104, L8S 4L8, ext. 24748

Grievances
University Secretary: Bruce Frank
Gilmour Hall, Room 210, L8S 4L8, ext. 24337

Other Publications for McMaster Students

- Undergraduate Studies
  - First Year Handbook
    (Available from the Office of the Registrar.)
  - Many academic departments offer information booklets about their undergraduate programs. These may be requested directly from the departments.

- Graduate Studies
  - Calendar of the School of Graduate Studies
    (Available from the School of Graduate Studies.)
  - McMaster Divinity College Calendar
    (Available from Divinity College.)
  - Graduate Studies in Business (MBA and Ph.D programs)
    (Available from the DeGroote School of Business.)

- Teaching departments that offer graduate studies also provide information booklets about their programs. These may be requested directly from the departments.

- Certificate and Professional Studies
  - The Centre for Continuing Education (CCE) Handbook which describes certificate and diploma programs and affiliated professional associations, as well as the CCE Timetable are available at http://www.mcmastercce.com

- Professional Development and Non-Credit Studies
  - Brochures about non-credit programs, such as languages, computer training, professional development workshops and managerial and leadership training, as well as the CCE Timetable are available at http://www.mcmastercce.com

Ombuds Office
Ombuds: Shelley Lancaster, Carolyn Brendan
McMaster University Student Centre, Room 210, L8S 4S4, ext. 24151; Fax: (905) 529-3208; Email: ombuds@mcmaster.ca

The Ombuds provides information and advice relating to problems, complaints and appeals involving members of the McMaster community.

The Ombuds Office is a service provided by the MSU and the University.

For information and advice with respect to University regulations and services, and human rights procedures, see the Academic Facilities, Student Services and Organizations section of the Calendar.
McMaster University

McMaster University, through its continued dedication to innovative education and ground-breaking research, has earned its reputation as one of the leading post-secondary institutions in Canada. McMaster is a medium-sized, full-service university offering educational programs through six Faculties. The extensive activity in research, supported by approximately $345 million in grants and contracts, means there are first-class libraries and sophisticated facilities. Undergraduate teaching is conducted through the De Groote School of Business, the Faculties of Engineering, Health Sciences, Humanities, Science and Social Sciences, and the distinctive Arts and Science Program. The Department of Kinesiology and the School of Social Work are part of the Faculty of Social Sciences.

DISCIPLINES AND DEGREES

The Arts and Science Program offers B. Arts Sc. and Honours B. Arts Sc. degrees. It is possible to combine the program leading to the Honours B. Arts Sc. degree with programs that fulfill the requirements for Honours degrees in a number of different disciplines.

The DeGroote School of Business offers the Honours B.Com. and B.Com. degrees, which include work in the following areas: accounting, business policy, finance, management science and information systems, marketing and international business, and human resources and management.

The Faculty of Engineering offers the Bachelor of Engineering degree in Chemical Engineering, Civil Engineering, Computer Engineering, Electrical and Biomedical Engineering, Electrical Engineering, Engineering Physics, Materials Engineering, Mechanical Engineering, Mechatronics Engineering, Software Engineering, Software Engineering and Embedded Systems, and Engineering and Game Design. In addition, a Bachelor of Applied Science is offered in Honours Computer Science and Honours Business Informatics.

Students may register in the Faculty of Engineering to take the five-level Engineering and Management program, which is offered jointly by the School of Business and Faculty of Engineering, and the five-level programs in Engineering and International Studies and Engineering and Society. The Faculty of Engineering offers a five-year program in Chemical Engineering and Bioengineering leading to a Bachelor of Engineering and Biosciences degree.

The Faculty of Engineering also offers a Process Automation Technology program and degree completion programs in Civil Engineering Infrastructure Technology, Computing and Information Technology and Manufacturing Engineering Technology, each leading to a Bachelor of Technology Degree. They are offered in conjunction with Mohawk College.

The Faculty of Health Sciences has gained an international reputation for its innovative educational programming, and offers, through the Michael G. DeGroote School of Medicine, the M.D. program, and through the School of Nursing, the B.Sc.N. degree program. A Bachelor of Health Sciences (B.H.Sc.) degree may be earned in Midwifery and a Bachelor of Health Sciences (Honours) (B.H.Sc. Hon.) program is also offered.

The Faculty of Humanities offers programs in Art, Art History, Classics, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English, French, History, Indigenous Studies, Linguistic Cognitive Science, Linguistics, Multimeda, Music, Peace Studies, Philosophy, Theatre & Film Studies and Women's Studies leading to B.A. degrees, as well as a Bachelor of Music degree and a Diploma in Music Performance. Students pursuing Honours degree programs may complete and receive credit for the third level of the program in study abroad at a university in a country approved by the Faculty.

Bachelor of Science programs are available in the Faculty of Science at the B.Sc. and B.Sc. Honours levels. Programs are offered in Biochemistry, Biology, Chemistry, Computational Biology, Computer Science, Earth and Environmental Sciences, Geo-science, Kinesiology, Life Science, Mathematical Science, Mathematics and Statistics, Materials Science, Medical and Health Physics, Medical Radiation Sciences, Molecular Biology, Origins, Physical Science, Physics and Psychology.

The Faculty of Social Sciences offers B.A. programs in Anthropology, Economics, Geography, Geography and Environmental Studies, Gerontology, Health Studies, Indigenous Studies, Labour Studies, Political Science, Psychology, Religious Studies and Sociology. The School of Social Work offers the combined B.A./B.S.W. degree, and the Department of Kinesiology, the Hon. B.Kin. degree.

THE UNIVERSITY

Named after Senator William McMaster, who bequeathed funds to endow a Christian school of learning, the University grew out of educational work initiated by Baptists in central Canada as early as the 1830s. After its initial years in Toronto, from 1897 to 1930, the University was moved to Hamilton. It became non-denominational in 1957, although the historic Baptist connection continues through the separately incorporated McMaster Divinity College.

More than 22,000 full-time students attend McMaster University, 2,500 of whom are pursuing advanced degrees offered through the School of Graduate Studies. In addition, over 3,800 part-time students are registered in the Fall/Winter session, from September to April, and 6,200 in the Spring/Summer session, from May to August. The University also provides courses in centres located outside Hamilton, for which full credit is granted.

Most of the 800 members of the University faculty hold doctoral degrees in their areas of specialization. Faculty members are expected to teach both graduate and undergraduate courses and may be involved in the academic counselling of students.

The University's diverse academic programs are supported by some fine, and even unique, facilities.

The University Library is a member of the Ontario Library Service, which makes frequent stops on campus.

Students have easy access to the McMaster network and the internet from their rooms. The Interuniversity Athletic Program features 34 varsity sports opportunities. The department also offers a full range of instructional and outdoor education programs throughout the calendar year. The imaginative facilities include an�-recreation complex featuring one of the largest collegiate fitness centres in Canada, seven gymnasiums, a 50-metre swimming pool, a 400-metre outdoor track, a 200-metre indoor track, squash courts and indoor climbing wall.

The McMaster campus, which is restricted to pedestrian traffic, is adjacent to the Royal Botanical Gardens at the western end of Lake Ontario. On-campus co-ed residences and single-sex residences are available. McMaster has 3,683 student rooms.

The University is minutes from downtown Hamilton, and the activities that a major city has to offer. Students can get there by car or by taking one of the buses from the region's public transit system, which make frequent stops on campus.
SESSIONAL AND CONVOCATION DATES

Sessional Dates

The academic year is divided into sessions, as shown on the chart below.

Most undergraduate students register for the **Fall/Winter Session**, which runs from September to April.

The **Spring/Summer Session** starts at the beginning of May and ends in early August.

The 2007-2008 Academic Year Divided by Session and Term

The numbers on the left and right of each block are the respective start and end dates for that term. Examination periods (where applicable) are included in this chart.

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</thead>
<tbody>
<tr>
<td>FALL/ WINTER</td>
<td>Term 1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td>7</td>
<td></td>
<td>29</td>
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<tr>
<td>SESSION</td>
<td>Term 2</td>
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<td></td>
<td>29</td>
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<tr>
<td></td>
<td>Term 3</td>
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<td></td>
<td>5</td>
<td>20</td>
<td></td>
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</tr>
<tr>
<td>SPRING/ SUMMER</td>
<td>Term 1</td>
<td></td>
<td></td>
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<td></td>
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<td>23</td>
</tr>
<tr>
<td>SESSION</td>
<td>Term 2</td>
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<tr>
<td></td>
<td>Term 3</td>
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<td>5</td>
<td></td>
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<td>8</td>
</tr>
</tbody>
</table>

CONVOCATIONS

The exact time of the convocations will be determined four months prior to the specific convocation date.

**Tuesday, July 31, 2007**
- Last day to file a Graduation Information Card and declare a minor for Fall 2007 Convocations

**Friday, November 16, 2007**
- Fall 2007 Convocations (all Faculties)

**Friday, February 29, 2008**
- Last day to change programs for Spring 2008 Convocations

**Friday, February 29, 2008**
- Last day to file a Graduation Information Card and declare a minor for Spring 2008 Convocations

**Friday, May 23, 2008**
- Health Sciences Convocation (excluding Nursing)

**Monday, June 9 to Friday, June 13, 2008**
- Spring Convocations

**Thursday, July 31, 2008**
- Last day to file a Graduation Information Card and declare a minor for Fall 2008 Convocations

**Friday, November 21, 2008**
- Fall 2008 Convocations (all Faculties)

Academic Commitments

Students should expect to have academic commitments Monday through Saturday but not on Sunday or statutory holidays. Students who require accommodations to meet a religious obligation or to celebrate an important religious holiday should make their requests as soon as possible after the start of term to their Faculty/Program office.

Release from Liability

McMaster University reserves the right to change or revise information contained in this Calendar, including the alteration of fee structures, schedules and/or courses. The University reserves the right to limit enrolment in, or admission to, any course or program at any level.

The University will not be liable for any interruption in, or cancellation of, any academic activities as set forth in this Calendar and related information where such interruption is caused by fire, strike, lock-out, inability to procure materials or trades, restrictive laws or governmental regulations, actions taken by the faculty, staff or students of the University or by others, civil unrest or disobedience, or any other cause of any kind beyond the reasonable control of the University.

Course Enrolment Limits: The University reserves the right to limit enrolment in any course which is oversubscribed, even if the course description and registration literature do not indicate an enrolment limit.

University Policies

Acceptance of the University's policies, and changes that may be approved from time to time by the Board of Governors and the Senate, is a condition of being accepted in any capacity in any University-controlled laboratory or program. This includes, but is not limited to, the McMaster University Intellectual Property Policy (http://www.mcmaster.ca/IntelProp).
### Sessional Dates for 2007-2008

The following schedule applies to both full- and part-time students.

#### Fall/Winter Session 2007-2008

<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration (All Levels)</td>
<td>Thursday, September 6</td>
<td>To Be Announced</td>
<td>Thursday, September 6</td>
</tr>
<tr>
<td>Classes begin</td>
<td>Monday, September 17</td>
<td>Monday, January 7</td>
<td>Monday, September 17</td>
</tr>
<tr>
<td>Last day for registration and adding or dropping courses</td>
<td>Monday, October 8</td>
<td>—</td>
<td>Monday, October 8</td>
</tr>
<tr>
<td>Thanksgiving Day: No classes</td>
<td>Friday, November 2</td>
<td>Monday, February 18 to Saturday, February 23</td>
<td>Monday, February 18 to Saturday, February 23</td>
</tr>
<tr>
<td>Mid-term recess</td>
<td></td>
<td>Friday, February 29</td>
<td>Friday, February 29</td>
</tr>
<tr>
<td>Last day for cancelling courses without failure by default</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Good Friday: No classes</td>
<td>Tuesday, November 27 to Tuesday, December 4</td>
<td>Tuesday, April 3 to Thursday, April 10</td>
<td>Friday, March 21 to Wednesday, December 5</td>
</tr>
<tr>
<td>Test and Examination ban: No tests or examinations may be held</td>
<td>Monday, December 3</td>
<td>Wednesday, April 9</td>
<td>Monday, June 23 to Thursday, June 26</td>
</tr>
<tr>
<td>Classes end</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Mid-Session Tests (Level I)</td>
<td>Wednesday, December 5 to Wednesday, December 19</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Final Examinations</td>
<td>Monday, February 18 to Thursday, February 21</td>
<td>Friday, April 11 to Tuesday, April 29</td>
<td>Monday, June 23 to Thursday, June 26</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td></td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

#### Spring/Summer Session 2008

<table>
<thead>
<tr>
<th></th>
<th>Term 1</th>
<th>Term 2</th>
<th>Term 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classes begin</td>
<td>Monday, May 5</td>
<td>Monday, June 23</td>
<td>Monday, May 5</td>
</tr>
<tr>
<td>Last day for registration and adding or dropping courses</td>
<td>Friday, May 9</td>
<td>Friday, June 27</td>
<td>Friday, May 9</td>
</tr>
<tr>
<td>Victoria Day: No classes</td>
<td>Monday, May 19</td>
<td>Wednesday, July 23</td>
<td>Monday, May 19</td>
</tr>
<tr>
<td>Last day for cancelling courses without failure by default</td>
<td>Wednesday, June 4</td>
<td>—</td>
<td>Tuesday, July 1</td>
</tr>
<tr>
<td>Canada Day: No classes</td>
<td>—</td>
<td>—</td>
<td>Monday, August 4</td>
</tr>
<tr>
<td>Civic Holiday: No classes</td>
<td>—</td>
<td>—</td>
<td>Friday, August 8</td>
</tr>
<tr>
<td>Classes end</td>
<td>Friday, June 20</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Examinations</td>
<td>December 2008 Examination period</td>
<td>December 2008 Examination period</td>
<td>December 2008 Examination period</td>
</tr>
<tr>
<td>Deferred Examinations</td>
<td></td>
<td>—</td>
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</tr>
</tbody>
</table>
DEGREES, PROGRAMS AND COURSES

DEGREES AND PROGRAMS

McMaster University offers the following undergraduate degrees:

<table>
<thead>
<tr>
<th>FACULTY AND DEGREE</th>
<th>DURATION IN YEARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARTS &amp; SCIENCE PROGRAM</td>
<td></td>
</tr>
<tr>
<td>B.Arts Sc.</td>
<td>3</td>
</tr>
<tr>
<td>B.Arts Sc. (Honours)*</td>
<td>4</td>
</tr>
<tr>
<td>(With the exception of the Combined Honours degrees in Biology and Physics which require five years of study.)</td>
<td></td>
</tr>
<tr>
<td>DeGroote School of Business</td>
<td></td>
</tr>
<tr>
<td>B.Com.</td>
<td>4</td>
</tr>
<tr>
<td>B.Com. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY OF ENGINEERING</td>
<td></td>
</tr>
<tr>
<td>B.A.Sc.</td>
<td>4</td>
</tr>
<tr>
<td>B.Eng.</td>
<td>4</td>
</tr>
<tr>
<td>B.Eng.Mgt.</td>
<td>5</td>
</tr>
<tr>
<td>B.Eng.Society</td>
<td>5</td>
</tr>
<tr>
<td>B.Eng.Biosciences</td>
<td>5</td>
</tr>
<tr>
<td>B.Tech.</td>
<td>2 or 4</td>
</tr>
<tr>
<td>B.Tech.</td>
<td>2 or 4</td>
</tr>
<tr>
<td>FACULTY OF HEALTH SCIENCES</td>
<td></td>
</tr>
<tr>
<td>B.H.Sc. (Midwifery)</td>
<td>4</td>
</tr>
<tr>
<td>B.H.Sc. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.N.</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.N. (Diploma RN Stream)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.N. (Registered Practical Nurse Stream)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.N. (Basic-Accelerated)</td>
<td>4</td>
</tr>
<tr>
<td>M.D. (Doctor of Medicine)</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY OF HUMANITIES</td>
<td></td>
</tr>
<tr>
<td>B.A.</td>
<td>3</td>
</tr>
<tr>
<td>B.A. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Mus. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.A.B.S.W.</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY OF SCIENCE</td>
<td></td>
</tr>
<tr>
<td>B.Med.Rad.Sc.</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Sc.Kin.(Honours)*</td>
<td>4</td>
</tr>
<tr>
<td>(These are co-op programs.)</td>
<td></td>
</tr>
<tr>
<td>(In these programs, an academic year extends beyond the regular Fall/Winter session.)</td>
<td></td>
</tr>
<tr>
<td>(** Degree designation subject to approval.)</td>
<td></td>
</tr>
<tr>
<td>FACULTY OF SOCIAL SCIENCES</td>
<td></td>
</tr>
<tr>
<td>B.A.</td>
<td>3</td>
</tr>
<tr>
<td>B.A. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.Kin. (Honours)</td>
<td>4</td>
</tr>
<tr>
<td>B.A.B.S.W.</td>
<td>4</td>
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<tr>
<td>B.S.W.</td>
<td>4</td>
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<tr>
<td>(Follows completion of prior undergraduate degree)</td>
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</tbody>
</table>

Second Undergraduate Degree

Provided for a university graduate to take a second bachelor's degree. This program is normally shortened (except for the B.H.Sc. Midwifery program). An application for admission is necessary for entry to a second degree program, and it should be submitted by the application deadlines. (See Application Procedures and General Academic Regulations sections of this Calendar.)

Combined Programs

There is the opportunity to combine two subjects of study within one Faculty, or between two Faculties. Further information can be obtained by referring to the Faculty sections of this Calendar, or contacting the appropriate Office of the Associate Dean.

ELECTIVE COURSES

AVAILABLE TO LEVEL I STUDENTS

The following is a list of courses available as electives to Level I students, provided that any requisites have been satisfied, and subject to enrolment limitations. A brief description of each course can be found under the appropriate Department within the Course Listings section in this Calendar.

- ANTHRO
- ARTHIST
- ASTRON
- ASTRON (Honours)
- BIOL
- BIOLOGY
- BIOLOGY (Honours)
- CHEM
- CHEM (Honours)
- CLASSICS
- CMST
- COMP LIT
- COMP SCI
- DEGREE SCIENCE PROGRAM
- DEGREE, PROGRAMS AND COURSES
- DEGREES AND PROGRAMS
- DIPLOMA RN Stream
- ENVL
- ENVIR SCI
- FRENCH
- GERMAN
- GERMANY
- GERONTOL
- GREEK
- HTH SCI
- HEALTH SCIENCE
- HIST
- HISTORY
- HUMEN SCI
- HUMANITIES
- INDIG ST
- INQUIRY
- INQUIRY (Honours)
- ITALIAN
- JAPANESE
- LABR ST
- LABR ST (Honours)
- LATIN
- LATIN (Honours)
- LINGUIST
- POLYSCI
- POLYSCI (Honours)
- POLISH
- POLISH (Honours)
- PSYCH
- PSYCH (Honours)
- RELIG ST
- RELIG ST (Honours)
- RELIG ST (Honours)
- SCIENCE
- SCIENCE (Honours)
- SOC WORL
- SOC WORL (Honours)
- SOCIOL
- SOCIOL (Honours)
- STAT
- STAT (Honours)
- STAT (Honours)
- THTR & FLM
- THTR & FLM (Honours)
- WOMEN ST
- WOMEN ST (Honours)
- * Not acceptable for the six-unit complementary studies elective required in Engineering.
- ** Note: Engineering I students interested in entering the Engineering and Management program must take ECON 1B03 as one of their complementary studies electives.
- + May not be taken for credit by students in Science I.
## COURSE AVAILABILITY

The following are lists of upper-level courses available to students subject to enrolment limitations and the prerequisites as specified for each list. (Engineering students should refer to the section in this Calendar under the appropriate Department within the Course Listings section in this Calendar.)

### UPPER-LEVEL COURSES AVAILABLE TO ALL STUDENTS

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### UPPER-LEVEL COURSES AVAILABLE TO STUDENTS REGISTERED IN LEVEL II OR ABOVE IN ANY PROGRAM

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### DEGREES, PROGRAMS AND COURSES

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## DEGREES BY PROGRAM

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<td>Women's Studies</td>
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* This degree program is also available through a combination of evening and summer study. The rate of completion however, will vary from program to program.
* A five-year co-op option is available.
* Degree Designation subject to approval.
* A Co-op option is available.

The University also offers Thematic Areas of Study and a large number of Minors. Suggested lists of courses, which constitute non-degree Thematic Areas, have been assembled in the section Interdisciplinary Minors and Thematic Areas. Also in that section are two Interdisciplinary Minors. Other Minors are found in the program sections of most departments.
Academic Probation, which may be assigned to students whose CA is at least 3.0 but less than 3.5, will allow a student to continue at the University for one reviewing period. Advanced Standing/Credit may be granted to an applicant who has completed work at another university or college or who has completed a Certificate/Diploma program at McMaster, subject to the applicant having met the minimum requirements prescribed by the University.

Antirequisite is a course which cannot be taken for credit before, after, or at the same time as the course with which it is listed.

Bursaries are granted based upon demonstrated financial need, a minimum expectation of academic accomplishment, and, in some cases, other forms of earned merit. They may vary in monetary value, based upon the level of financial need demonstrated.

Continuing Student is a university graduate who is not proceeding to an advanced degree, but wishes to take one or more undergraduate courses.

Corequisite is a course which must be taken together with another course.

Course Numbers (e.g. 1A03) can be interpreted as follows: the initial digit indicates the Level of the course; the letter(s) in the middle identifies the specific courses within the Level; and the final digit(s) defines the number of units of credit associated with the course.

Cross-listed Course is a course which is listed under two or more subjects.

Cumulative Average (CA) is a weighted average based on the grades obtained in all courses taken.

Degree is conferred when a student completes a program of study (e.g. Bachelor of Arts, Bachelor of Science, Master of Science, Doctor of Philosophy).

Department is a subdivision of a Faculty, responsible for a particular subject or group of subjects (e.g. Department of Chemistry, Department of Modern Languages and Linguistics).

Elective Courses are those courses taken by a student which are not specifically designated in a student's program, but which form part of the total number of units required to complete the program.

Extra Courses are those courses designated at the time of registration as "Extra", which are not included as units toward completion of a student's program. The grades obtained in such courses will not be included in the computation of the Cumulative Average. However, they will be included in the computation of the Sessional Average and the Full-load Average.

Faculty is a major administrative and teaching unit of the University responsible for programs and courses relating to common fields of study or academic disciplines (e.g. Faculty of Humanities, Faculty of Engineering).

Full Load is the number of units specified in the Calendar for a student's program (e.g. Commerce, Level II: 30 units). If the Calendar does not specify the program requirements by individual levels, divide the total units for all levels by the number of levels, discarding the remainder.

Full-load Average (FA) is based on the successful completion of a full load of course units (see Full load definition), and includes only courses taken in the Fall/Winter session. Overload units (those above Full Load) and Extra Courses taken during the Fall/Winter session are included in the FA.

Full-time Student for academic purposes is an undergraduate student who is registered in at least 24 units in the Fall/Winter session, including Extra Courses. Full-time status for students in the Faculty of Science Co-op programs is granted to those students registered in at least 12 units in Term 1 or Term 2 of the Fall/Winter session.

Letter of Permission is a formal document which allows a McMaster student to take one or more courses at another university for credit towards a McMaster degree.

Level is used to describe a student's progressional through a program.

Loans are monetary advances granted to students currently registered, based upon a demonstrated means and promise of repayment.

Mature Student has not attended secondary school or college on a full-time basis for at least two years; and has not previously attended university.

Minor is an option available to students enrolled in four- or five-level programs. A Minor consists of at least 24 units — of which normally no more than six units may be from Level I — that meet the requirements set out in the program description of that Minor.

Part-time Student is an undergraduate student who is registered in fewer than 24 units in the Fall/Winter session, including Extra Courses.

Post-Degree Student is a university graduate or a person with professional qualifications who is not proceeding to an advanced degree, but wishes to take one or more graduate courses.

Prerequisite is a requirement that must be met to register in a course. A course requisite may comprise Prerequisites, Corequisites and Antirequisites.

Result of Session is the statement of the academic standing of a student at the end of a reviewing period. May continue in program, May not continue and Clear to graduate are three examples.

Review is an assessment of a student's performance to determine eligibility to continue in a program or to graduate.

Reviewing Period is the time between two reviews for a student. Reviews will take place in May and August, provided the student has attempted 18 units of work since the last review or is a potential graduand.

Session is a period of study within the academic year. For example, the Fall/Winter session runs from September to April.

Sessional Average (SA) is a weighted average based on the grades obtained in a session. Overload courses and Extra courses are included in the Sessional Average.

Term is a period of study within a session. The Fall/Winter session, for example, contains three terms, Term 1 runs from September to December; Term 2 runs from January to April; Term 3 runs from September to April.

Transcript is an official document summarizing the entire academic record of a student at a particular educational institution.

Tuition is fees paid in consideration for enrolment in a program of study and selected courses.

Undergraduate Student is a student enrolled in a program of study leading to a bachelor's degree or to the degree Doctor of Medicine.

Units define the number of credits associated with a course. A unit is roughly equivalent to one lecture-hour per week for one term or two hours of laboratories or seminars per week for one term.

Weighted Average is calculated by multiplying the grade points achieved in each course by the number of units in each course, totaling these results, and then dividing this result by the total number of course units. (See example under Grading System in the General Academic Regulations section in this Calendar.)

Withdrawal is the formal process of discontinuing studies in a particular course or program.
ADMISSION REQUIREMENTS

1. ADMISSION FROM SECONDARY SCHOOLS

A. Ontario

General Requirements (For All Level I Programs)
To be considered for admission, you must satisfy the general requirements of the university and the specific subject requirements for the program to which you applied.
If you are an applicant from an Ontario secondary school you must meet the following three requirements:
1. An Ontario Secondary School Diploma (OSSD) with acceptable standing;
AND
2. An overall average in completed Grade 12 U and M courses which meets or exceeds the minimum set by the specific program to which you applied;
AND
3. Satisfactory completion of six Grade 12 U and M courses including the subject requirements for your chosen program.

Music External (Conservatory) 4M is acceptable as a credit and the mark obtained can be included in the calculation of your admission average. Alternatively, marks supplied by an acceptable conservatory of music may be used to determine your average for admission. You may submit certificates from a recognized conservatory of music in Grade 9 practical and Grade 3 theory.

Admission Average

The admission average is normally calculated using the best six Grade 12 U and M grades, including the grades in all of the required subjects. However, the admission average is a "point in time" calculation. That is, the number of grades included in the admission average will be a minimum of three final grades and a maximum of six interim, midterm, or final grades and will depend on the number of grades available on the Admissions database at the time of assessment. McMaster calculates averages to two decimal points and we do not round up averages. See the headings Early Conditional Admission and Final Admission below for specific details.

Early Conditional Admission

Early conditional admission is granted annually to qualified applicants depending on your academic standing at that time. McMaster normally begins making offers in early March. Early conditional admission is based on:
1. six appropriate midterm/interim Grade 12 U and M grades, OR
2. at least three final Grade 12 U and M grades PLUS enrollment in the appropriate additional three Grade 12 U and M courses.

If you do not receive an offer of admission in March, you will be re-assessed for admission after additional Grade 12 U and M grades are received from your secondary school. Admission offers made in April and May will be based on updated Grade 12 U and M grades. Some Faculties may review information you may have provided on a supplementary application form. If you are granted a conditional offer of admission, you must meet the general requirements of the university. See General Requirements (For All Level I Programs) above.

The University reserves the right to withdraw a conditional offer of admission due to any of the following:
1. if you do not meet the minimum final average prescribed for your chosen program;
   OR
2. if you do not receive an OSSD;
   OR
3. if you do not complete six Grade 12 U and M courses including all required subjects;
   OR
4. if you do not respond to the Ontario Universities' Application Centre (OUAC) within the response period indicated on your offer letter;
5. if you do not meet any other condition stipulated on your conditional offer of admission.

Minimum Final Average

If you are a secondary school applicant who receives a conditional offer of admission based on internal grades, you will be required to achieve an overall average (on six (6) final grades including all required courses for your desired program) as indicated on your offer of conditional admission.
If your final average falls below this level (or its equivalent), your offer of admission will be rescinded and your registration will be cancelled.
The required minimum final average will vary from year to year and by program. This average will be stated clearly on the offer of conditional admission.

Supplementary Application Forms and Personal History

Certain Level I programs such as Arts & Science, Bachelor of Health Sciences, and Midwifery have mandatory supplementary application forms which must be completed by specific deadline dates. See Deadlines in the Application Procedures section of the Calendar for specific deadline dates.

Optional supplementary application forms are available online to applicants to other Level I programs. Applicants who do not receive an offer of admission and wish to have their supplementary information reviewed must submit the on-line form by the specified deadline date. Normally, supplementary information is reviewed by Faculty admission committees to aid in making decisions regarding applicants who are approximately 1-3% below the cutoffs in May. For further information refer to our web site at registrar.mcmaster.ca/external/chs-application.htm.

In some cases, letters of recommendation, personal history or other additional information may be requested by the university to aid in the admission process.

Final Admission

Applicants may be eligible for final admission if they have fulfilled the requirements for their OSSD and have final grades in at least six Grade 12 U and M courses. If you fulfill the requirements for your chosen program by the end of February, you may be granted an offer of final admission by the end of March.
If you do not receive a conditional offer of admission by May 25th, you may still be considered for final admission, once final marks are received, depending on availability of space in your chosen program.

Deferral of Admission

Applicants who receive both an offer of scholarship and an offer of admission and who have accepted the offer of admission through the OUAC and have satisfied all conditions of their offer of admission may apply to defer their entry for one year. Otherwise, McMaster does not normally grant a deferral of an admission offer unless special circumstances exist. Each case is evaluated on its own merits. If a deferral is granted, it is conditional upon the student not attending a secondary or post-secondary institution during the deferral period. Students will be required to re-apply through the OUAC on the 105 application form to reactivate their application.

If a deferral is granted, it is conditional upon the student not attending a secondary or post-secondary institution during the deferral period. Students will be required to re-apply through the OUAC and have satisfied all conditions of their offer of admission. If you do not receive an offer of admission by May 25th, you may still be considered for final admission, once final marks are received, depending on availability of space in your chosen program.

Program Transfer After Admission

If you are admitted to one program and subsequently wish to transfer to another, you may be able to do so, provided space is available and you have met the average and subject requirements for the second program.

If you have not already registered, contact the Office of the Registrar to request a program transfer. If you have registered, contact the Faculty Office for your desired program to request a transfer.

Implementation of the New Ontario Mathematics Curriculum and Planning for Admission

With the implementation of the new secondary school Mathematics curriculum, it has been necessary for the university to re-define its admission requirements relative to the Grade 12 U Mathematics courses. We are aware that some secondary
students during the early stages of the transition, may present
mock courses from both the new and old Mathematics curricula.
McMaster is committed to ensuring that all applicants shall be
considered fairly. In the section below, you will find admission
requirements for programs including the old Mathematics
curriculum and the new Mathematics curriculum where applicable.
For further information, consult McMaster's Prospective Students
web site at the following url: registrar.mcmaster.ca/external/.

Subject Requirements for Specific Level I Programs

All Level I programs have enrolment limits and admission is
by selection. Possession of the minimum admission
requirements does not guarantee admission.

McMaster University offers thirteen Level I programs: Arts & Science I,
Business I, Engineering I, Health Sciences I, Humanities I,
Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences
I, Midwifery I, Music I, Nursing I, Science I and Social Sciences I.
Several new programs are being introduced in 2008-2009.

ARTS AND SCIENCE (0027)

You are required to complete a mandatory Supplementary
Application Form which must be submitted electronically via the
web at www.mcmaster.ca/artsci/admissions.html. The information
provided enters into the selection process. Only applicants with
high academic standing are selected. In recent years successful
candidates had an admission average in the upper 80s or higher.

The following are the minimum Grade 12 U and M requirements
for 2007-2008:

1. English U
2. Advanced Functions and Introductory Calculus U
3. Completion of four additional U or M courses of which two must be
   at the U level.

Effective 2008-2009:

1. English U
2. Advanced Functions
3. Completion of four additional U or M courses of which two must be
   at the U level.

BUSINESS (0725)

The following are the minimum Grade 12 U and M requirements
for 2007-2008:

1. English U
2. Advanced Functions and Introductory Calculus U
3. One of Geometry and Discrete Mathematics U or Mathematics
   of Data Management U
4. Completion of three additional U or M courses to total six credits.
   Effective 2008-2009:

   1. English U
   2. Advanced Functions U
   3. One of Calculus and Vectors U or Mathematics of Data Management

   4. Completion of three additional U or M courses of which two must be
      at the U level.

Principles of Financial Accounting M is recommended.
In recent years, an average in the low 80s is expected to be
required for an offer of admission.

Completion of a Supplementary Application is recommended for
those students whose average is near the cut-off.

COMPUTER SCIENCE (0145)

COMPUTER SCIENCE CO-OP (0145003)

Effective 2008-2009

The following are the minimum Grade 12 U and M requirements
beginning in 2008-2009:

1. English U
2. Calculus and Vectors U
3. Two of Biology U, Chemistry U, Physics U, Earth and Space U,
   Computer and Information Science U, or Computer Science M
4. Completion of two additional U or M courses to total six credits.
   Students are also expected to have completed Advanced Functions U.

ENGINEERING (0730)

ENGINEERING CO-OP (0730003)

The following are the minimum Grade 12 U and M requirements
for 2007-2008:

1. English U
2. Advanced Functions and Introductory Calculus U
3. Chemistry U
4. Physics U
5. One of Geometry and Discrete Mathematics U, Mathematics of
   Data Management U, Biology U or Earth and Space Science U.
   (Geometry and Discrete Mathematics U is recommended)
6. Completion of one additional U or M course to the total six credits.

Effective 2008-2009:

1. English U
2. Chemistry U
3. Physics U
4. Calculus and Vectors U
5. Completion of two additional U or M course to total six credits.

A minimum overall average in the low to mid-80s has been required
for an offer of admission in recent years.

Completion of a Supplementary Application is recommended for
those students whose average is near the cut-off.

ENVIRONMENTAL AND EARTH SCIENCES (0211)

Effective 2008-2009

The following are the minimum Grade 12 U and M requirements
beginning in 2008-2009:

1. English U
2. Advanced Functions U
3. Chemistry U
4. One of Biology U, Calculus and Vectors U or Physics U
5. Completion of two additional U or M courses to total six credits.

HEALTH SCIENCES (2276)

The selection method is by consideration of academic qualifications
(minimum overall average of 90% is required for consideration) and
a mandatory Supplementary Application. A review of the mandatory
Supplementary Application is a very important component of the
admission process. Applicants who do not complete the
Supplementary Application are not considered for admission.

The following are the minimum Grade 12 U and M requirements
beginning in 2008-2009:

1. English U
2. Biology U
3. Chemistry U
4. Advanced Functions and Introductory Calculus U
5. One U or M course from Social Sciences (Geography, History,
   Law, Psychology, Sociology) or Humanities (Art, Drama, En-
   glish, French, Music, other languages)
6. Completion of one additional U or M course in any subject area
to total six courses.

Effective 2008-2009:

1. English U
2. Biology U
3. Chemistry U
4. One of Advanced Functions U, Calculus and Vectors U, or
   Mathematics of Data Management U
5. One U or M course from Social Sciences (Geography, History,
   Law, Psychology, Sociology) or Humanities (Art, Drama, En-
   glish, French, Music, other languages)
6. Completion of one additional U or M course in any subject area
to total six courses.

Note: Courses in technological education, science or mathematics
are not acceptable as the Social Sciences or Humanities course requirement.

HUMANITIES (0700)

The following are the minimum Grade 12 U and M requirements:

1. English U
2. Completion of additional U or M courses to total six credits.

In recent years, an average in the mid-70s has been required
for an offer of admission.

The Faculty of Humanities strongly recommends that you select
at least one Grade 12 U or M course from Humanities subjects (Art,
Drama, English, French, francais, other languages, History and
Music) in addition to Requirement 1 above.
Admission to Art:
When applying for admission using the OUAC application, applicants who wish to study Art should select MH for the OUAC code and choose FINE ARTS for the Subject of Major Interest.

Honours Art programs have limited enrollments. Entrance to any Honours Art program requires the permission of the School of the Arts and successful completion of ART 1F03 and 1FF3. Students who wish to enrol in ART 1F03 and 1FF3 in Level I must complete a portfolio interview to be eligible for permission to register in these courses. The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs.

- Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who wish to enrol in the Office of the School of the Arts may be considered for enrolment. If, after the interview, the student is accepted into the School of the Arts, the applicant must submit a Letter of Admission to Humanities I from the University that guarantees entrance in the School of the Arts. The School of the Arts will verify that the student meets the minimum academic requirements as outlined under the School of the Arts programs in the Faculty of Humanities section of the Calendar.

> KINESIOLOGY I
LAST OFFERED IN 2007-2008

The following are the minimum Grade 12 U and M requirements for 2007-2008:
1. English U
2. Biology U
3. One of Geometry and Discrete Mathematics U or Advanced Functions and Introductory Calculus U
4. Completion of three additional U or M courses to total six credits.

In recent years, an average in the mid-80s has been required for an offer of admission.

NOTES:
- Completion of a Supplementary Application is recommended for those whose average is near the cut-off.
- Please see Level I Science courses for specific Ontario Secondary School Pre-requisites.

> HONOURS KINESIOLOGY I
(EFFECTIVE 2008-2009)

The following are the minimum Grade 12 U and M requirements beginning in 2008-2009:
1. English U
2. Biology U
3. Advanced Functions U
4. Completion of three additional U or M courses to total six credits.
4U courses strongly recommended include Calculus and Vectors U and Exercise Science U.

> LIFE SCIENCES I
(EFFECTIVE 2008-2009)

The following are the minimum Grade 12 U and M requirements beginning in 2008-2009:
1. English U
2. Biology U
3. Advanced Functions U
4. One of Calculus and Vectors U, Chemistry U, or Physics U
5. Completion of two additional U or M courses to total six credits.

> MATHEMATICS AND STATISTICS I
(EFFECTIVE 2008-2009)

The following are the minimum Grade 12 U and M requirements for 2007-2008:
1. English U
2. Advanced Functions and Introductory Calculus U
3. Geometry and Discrete Mathematics U
4. Completion of three additional U or M courses to total six credits. Effective 2008-2009:
1. English U
2. Advanced Functions U
3. Calculus and Vectors U
4. Completion of three additional U or M courses to total six credits. A Supplementary Application is recommended for those students whose average is near the cut-off.

> MEDICAL RADIATION SCIENCES I
(EFFECTIVE 2008-2009)

The following are the minimum Grade 12 U and M requirements for 2007-2008:
1. English U
2. Biology U
3. Chemistry U
4. Advanced Functions and Introductory Calculus U
5. Completion of two additional U or M courses to total six credits. Effective 2008-2009:
1. English U
2. Biology U
3. Chemistry U
4. Advanced Functions U
5. One of Calculus and Vectors U or Physics U (both are recommended)
6. Completion of one additional U or M courses to total six credits.

> MIDWIFERY I
(EFFECTIVE 2008-2009)

As places in the Midwifery program are very limited, the admission process is competitive. Application forms are due by February 1. No exceptions will be made.

The following are the minimum Grade 12 U and M requirements:
1. English U
2. One of Biology U or Chemistry U (both are recommended)
3. One U or M course in Social Science (History, Sociology, Psychology, Geography, Law)
4. Completion of additional U or M courses to total six credits
5. To be eligible students must obtain a minimum grade of 70% in each of the three required courses listed in points 1, 2, and 3 above AND an acceptable overall average on six Grade 12 U and M courses, including the required courses.

In recent years, an average in the low to mid 80s has been required for an offer of admission.

> MUSIC I

The academic requirements are the same as for Humanities I. In addition, applicants to Music I or to the B.A. in Music must successfully complete a music audition/examining consisting of:
1. Demonstration of technique (a level equivalent to at least honours standing in Grade 8 of the Royal Conservatory of Music)
2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 8 honours level), including at least one from the 20th century
3. Written examination on rudiments of theory (Grade 2 level)
4. Interview

Auditions take place between February and April. You must make arrangements with the School of the Arts for your audition.

> NURSING I

NURSING CONSORTIUM (Conestoga)
(NURSING CONSORTIUM (Mohawk)

Students interested in a McMaster (B.Sc.N.) Nursing degree have three location options: McMaster University, Mohawk College or Conestoga College. Each of the three sites offers the four-year program which uses the problem-based learning and small group tutorial educational model. For general information about the Mohawk and Conestoga sites refer to the Collaborative B.Sc.N. (C) Stream references throughout the School of Nursing in the Faculty of Health Sciences section of the Calendar. For application instructions see the Application Procedures section of the Calendar.

Health requirements for admission: Before registration, you must file with the University, information pertaining to your state of health and immunization. Detailed instructions will be provided upon acceptance into the program.

The following are the minimum Grade 12 U and M requirements for 2007-2008:
1. English U
2. Biology U
3. Chemistry U
4. One of Advanced Functions and Introductory Calculus U, Geometry and Discrete Mathematics U or Mathematics of Data Management U
5. Completion of two additional U or M courses to total six credits.
## ADMISSION REQUIREMENTS

### Ontario Secondary School Course Equivalents for Students from Other Canadian Provinces

| Ontario Grade 12 | B.C./ Yukon | Alta./
| | | Numenual |
| | | Sask |
| | | Manitoba |
| | | +4 Dure |
| | | (CEGEF) |
| | | Nova Scotia |
| | | New |
| | | Brunswick |
| | | PE.I |
| | | Nfld |

### English U

| English 12 | English 30 or 31 | English A30 and B30 | English 6A 465 | Two English 600 courses | English 12 | English 121 or 122 | English 62 | English 301 |

### Advanced Functions and Introductory Calculus U

| Calculus 12 | Math 31 |
| | Math 30, if available or AP Calculus |
| AP Calculus or Pre Calculus | Calculus 1 and 1 |
| Math 405 may be considered | Calculus 120 |
| Advanced Math with Intro to Calculus 120 |

### Geometry and Discrete Mathematics U

| Principles of Math 12 | Math 20 |
| Math 390 and 340 |
| Pie Calculus |
| Linear Algebra I |
| Advanced Math 12 or Math 12 |
| Trigonometry and 3-Space 121/72 |
| Math 5215 |
| Math 300 or 3005 |

### Mathematics of Data Management U

| Principles of Math 12 | Not available* |
| Not available* |
| Applied Math 405 |
| Not available* |
| Not available* |
| Not available* |
| Math 501A |
| Not available* |

### Chemistry U

| Chemistry 12 |
| Chemistry 30 |
| Chemistry 30 |
| Chemistry 405 |
| Chemistry 12 |
| Chemistry 121 or 122 |
| Chemistry 62 |
| Chemistry 302 |

### Physics U

| Physics 12 |
| Physics 30 |
| Physics 30 |
| Physics 405 |
| Physics 12 |
| Physics 121 or 122 |
| Physics 52 |
| Physics 304 |

### Biology U

| Biology 12 |
| Biology 30 |
| Biology 30 |
| Biology 405 |
| Biology 12 |
| Biology 121 or 122 |
| Biology 521 |
| Biology 3001 |

* Topics related to Mathematics of Data Management are found in several Math courses.

+ Applicants to Engineering I or Science I without Calculus at the time of application will be considered conditionally, providing an appropriate Calculus course is completed prior to September registration.

**AP Mathematics, AP Calculus or International Baccalaureate Calculus is also acceptable.

++Six Grade 12 credits numbered in the 600 series may be substituted.

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**SCIENCE**


The following are the minimum Grade 12 U and M requirements beginning in 2008-2009:

1. English U
2. Advanced Functions U
3. Calculus and Vectors U
4. Physics U
5. Physics U

**PHYSICAL SCIENCES**

**EFFECTIVE 2008-2009**

The following are the minimum Grade 12 U and M requirements beginning in 2008-2009:

1. English U
2. Advanced Functions U
3. Two of Geometry and Discrete Mathematics U, Biology U, Chemistry U or Physics U

6. Completion of one additional U or M course to total six credits.

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**Mathematics of Data Management U is recommended for students interested in the Life Sciences. Geometry and Discrete Mathematics U is recommended for students proceeding to the Mathematical or Physical Sciences.**
14 ADMISSION REQUIREMENTS

Averages used to determine eligibility for admission and residence are calculated based on the minimum provincial requirements above, including the prerequisite courses for the program to which you have applied. The average must meet or exceed the minimum average set by the specific program.

Early Conditional Admission

Applications are reviewed for conditional admission as soon as all required documents with sufficient course and grade data are received by the Admissions Office. All Canadian applicants should ensure that their schools forward interim mid-year school grade reports showing marks for all courses taken during the Grade 12 year as soon as they are available. The terms and conditions of the offer of admission are stated clearly on the offer letter.

C. International Baccalaureate Diploma

Applicants who have completed the International Baccalaureate Diploma will be considered for admission to Level I, provided the completed diploma program includes the subject requirements of the program desired. An overall minimum score of 28 must be achieved in order to be eligible for admission. Diploma points will be included in the overall assessment of programs requiring a minimum advanced credit of 4.

At the discretion of the Faculty, advanced credit of up to 18 units may be granted for completed Higher Level courses with a minimum final score of 6.

D. Advanced Placement (A.P.) Courses/Examinations

Applicants who have completed Advanced Placement Courses will be considered for admission to a Level I program. Applicants who have completed Advanced Placement Examinations in acceptable courses with a minimum grade of 4 may be recommended for up to 18 units of advanced credit, subject to the discretion of the Faculty. An official copy of the final Advanced Placement Examination Report from ETS is required as part of the evaluation process.

E. Other International Secondary School Qualifications

McMaster welcomes applications from international students. See the admission requirements for applicants from educational systems below. Refer to Application Procedures for instructions on how to apply for admission.

Applicants must arrange for official matriculation certificates to be sent well in advance of the session to which they are applying. The equivalent of first-class standing may be required for some limited enrolment programs. Clear notarized photocopies of documents in a language other than English should be accompanied by notarized English translations. Clear photocopies of English language certificates must be notarized.

You are considered for admission on an individual basis. You are strongly advised not to come to the University until you have been informed of your acceptance and have fulfilled all conditions of admission.

American High School Curriculum

Applicants from the United States of America or international schools offering the American high school curriculum must satisfactorily complete a secondary school diploma with a minimum overall average of at least 80% in the Grade 12 academic program of an accredited American high school and must present all prerequisite courses for their chosen program. Refer to Subject Requirements for Specific Level I Programs listed under Ontario in this section. Admission is competitive and many programs will require grades/averages above the minimum 80% for admission consideration.

American Curriculum applicants must also present results from the S.A.T. I with a minimum combined score of 1200 (minimum 580 verbal, 520 mathematics) or from ACT with a minimum composite score of 27.

General Certificate of Education (G.C.E.)

Applicants from the General Certificate of Education system require:

1. five GCE subjects, at least two of which must be at the Advanced Level with the balance of subjects at the Ordinary Level;
2. Advanced Placement (A.P.) subjects appropriate for your chosen program, (refer to Subject Requirements for Specific Level 1 Programs listed under Ontario in this section). For Science and Engineering programs, Mathematics and one of Physics or Chemistry must be offered at the Advanced Level.

3. Grades of at least C must be presented in each of the Ordinary and Advanced Level subjects. Some programs will require higher grades. Possession of the minimum grades does not guarantee admission.

Applicants with a minimum grade of C in Advanced Level subjects may be eligible for up to 12 units of Advanced Credit which will be determined on a case-by-case basis, at the discretion of the Faculty.

Advanced Placement (A.P.) Courses/Examinations

See the heading Advancement Placement (A.P.) Courses/Examinations in this section of the Calendar.

International Baccalaureate Diploma

See the heading International Baccalaureate Diploma in this section of the Calendar.

Other Countries or Educational Systems

For admission requirements from other education systems, please visit the Office of International Affairs web site at www.mcmaster.ca/oia/adreq.htm to view our Country Specific Admissions Requirements.

F. Home Schooled Applicants

Home schooled applicants who in addition to their home schooling experience have completed six Grade 12 U and M courses or equivalent from another recognized academic jurisdiction may be considered for their program of choice providing they present the appropriate prerequisite courses on official transcripts from accredited schools and meet the required admission average.

All other home schooled applicants may apply for admission to Humanities I or Social Sciences I only and must present the following for consideration:

1. List of home school credentials including but not limited to coursework from another recognized academic jurisdiction which may be considered for their program of choice providing they present the appropriate prerequisite courses on official transcripts from accredited schools and meet the required admission average.

2. Portfolio of written work; normally, we will expect to see evidence of appropriate intellectual maturity.

3. Results of standardized tests such as SAT, ACT. For SAT I, we normally recommend a minimum requirement of 1200 combined score for the Critical Reading and Math Components of the SAT I Tests. For ACT, we normally recommend a minimum requirement of a composite score of 27.

Interested applicants should contact the Office of the Registrar for further information regarding admission criteria.

2. ADMISSION/TRANSFER FROM POST-SECONDARY INSTITUTIONS

A. From Universities

Applicants presenting a strong academic record may be considered for an early conditional offer of admission.

When you transfer to McMaster University, you will normally receive credit for courses in which you have obtained at least a C (third-class honors) standing. Assessment of courses for transfer credit is subject to the guidelines of the individual Faculties.

As a transfer student, you must also satisfy the Residence Requirements set out in the General Academic Regulations section of this Calendar. The University will not accord to you privileges which would not be granted by your own university. Grades obtained in courses taken at another university will not be included in McMaster's Cumulative Average, and, therefore, cannot be used to raise your standing.

If you have been required to withdraw from another university and have fulfilled your period of suspension, you may apply for admission. However, you must present a letter of explanation and clarification concerning your past academic performance. You may also be asked to provide academic documentation for proof of further academic achievement which is both current and relevant. Admission will be considered on a case-by-case basis and is not guaranteed.

B. From Colleges of Applied Arts and Technology

McMaster welcomes applications from students who have attended a College of Applied Arts and Technology. See the minimum admission requirements for Level I programs as listed below. You are considered for admission on an individual basis. All GPAs listed below are based on a 4-point scale of grading.

All Level I programs have enrolment limits and admission is by selection. Possession of the minimum admission requirements does not guarantee admission.

ARTS AND SCIENCES

1. Completion of a three-year diploma.

2. Successful completion of both Grade 12 Advanced Functions and Introductory Calculus and English U (or equivalent).

3. Admission is by selection upon review of college and high school transcripts to determine eligibility.

BUSINESS

1. Completion of a two- or three-year diploma.

2. A cumulative GPA of 3.4 or better.

3. Successful completion of three Mathematics courses at the college level or a Grade 12 Advanced Mathematics course or equivalent.

ENGINEERING

1. Completion of a three-year technology diploma program.

2. A cumulative GPA of 3.2 or better. Technician programs are not recognized as eligible for admission consideration to Engineering I.

BACHELOR OF HEALTH SCIENCES (HONOURS)

Admission is not assessed based on CAAT achievement. It is based on high school admission criteria only. See Subject Requirements for Specific Level I Programs section of the Calendar.

HUMANITIES

1. Completion of at least one year of work in a diploma program.

2. A cumulative GPA of 3.2 or better. (You may be admitted with a lower GPA if you have completed two or more years of a diploma program.)

KINESIOLOGY

1. Completion of a three-year diploma.

2. A cumulative GPA of 3.5 or better.

3. Completion of Grade 12 Advanced Functions and Introductory Calculus U, Geometry and Discrete Mathematics U, and Biology U.

4. Admission is by selection upon review of college and high school transcripts to determine eligibility.

MATHEMATICS AND STATISTICS

1. Completion of a three-year technology diploma program.

2. A cumulative GPA of 3.0 or better.

3. Completion of Grade 12 Advanced Functions and Introductory Calculus U and Geometry and Discrete Mathematics U.

No transfer credit will be offered.

MIDWIFERY

For admission requirements see the heading B.H.Sc. Midwifery Program in the Faculty of Health Sciences section of this Calendar.

MUSIC

1. Completion of a three-year diploma program in Music from Mohawk College.

2. A cumulative GPA of 3.0 or better. (Audition will be waived and, depending on grades received, applicants may receive up to 48 units of advanced credit.)

NURSING

1. Completion of an Ontario diploma in Nursing or the equivalent.

2. A cumulative GPA of 2.8 or higher.

3. Selection will be based on academic qualification and a rating obtained on a questionnaire completed by the applicant. An interview may also be required.

OR

1. Completion of an Ontario diploma in pre-health sciences.

2. A cumulative GPA of 2.8 or higher.

3. Completion of at least two semesters (two credits) of Biology, Chemistry, Mathematics, and English.

4. Selection will be based on academic qualification and a rating obtained on a questionnaire completed by the applicant. An interview may also be required.

ADVANCEMENT PLACEMENT (A.P.) COURSES/EXAMINATIONS

See the heading Advancement Placement (A.P.) Courses/Examinations in this section of the Calendar.
16 ADMISSION REQUIREMENTS

- **SCIENCE**
  1. Completion of a three-year technology diploma program.
  2. A cumulative GPA of 3.2 or better.
  3. Completion of Grade 12 Advanced Functions and Introductory Calculus U, two of Geometry and Discrete Mathematics U, Biology U, Chemistry U, or Physics U.
  4. Admission is by selection upon review of college and high school transcripts to determine eligibility.

- **SOCIAL SCIENCES**
  1. Completion of at least one year of work in a diploma program.
  2. A cumulative GPA of 3.2 or better. (You may be admitted with a lower cumulative GPA if you have completed two or more years of a diploma program.)

- **BACHELOR OF TECHNOLOGY**
  1. Completion of a related three-year technology diploma program.
  2. A cumulative GPA of 3.0 or better.

- **University Graduates Applying for a Second Bachelor's Degree**

   Admission is by selection. If you have a first degree, you may apply to take an Honours second degree in the same subject area or a second degree in another discipline. Please note three exceptions: B.H.Sc. (Bachelor of Health Sciences (Honours)), B.Com. (Bachelor of Commerce) and B.Com. (Honours) cannot be done as second degree programs. The requirements are set out in the General Academic Regulations section of this Calendar.

- **BACHELOR OF THEOLOGY**

  Applicants from an accredited post-secondary institution with religious affiliation will be considered for admission and transfer credit. Based on the following:
  1. Applicants from accredited post-secondary institutions with religious affiliation:
     a) Applicants from an accredited post-secondary institution with religious affiliation completing academic work towards a recognized undergraduate degree program will follow the same policy for admission and transfer credit as for university transfer applications. For details see the heading From Universities in this section of the Calendar.
     b) Applicants from an accredited post-secondary institution with religious affiliation completing academic work towards a diploma program will follow the same policy for admission and transfer credit as for applicants from Colleges of Applied Arts and Technology (CAATS). For details see the heading From Colleges of Applied Arts and Technology in this section of the Calendar.
     c) Applicants who did not previously complete the necessary minimum requirements for admission to the university will be considered for admission based on a minimum of one year of study in a diploma program at an accredited post-secondary institution with religious affiliation with an average of at least 3.2 (or 80%). A high school transcript will also be required. The completed academic work will serve as the basis of admission to the university. No transfer credit will be granted.

- **General Notes about Transfer Credit:**
  i) Only the academic courses will be considered for transfer credit;
  ii) No credit will be granted for professional courses such as education, administration, pastoral studies, counselling or courses of a particular doctrinal or denominational belief;
  iii) Courses in religious studies may not be considered for transfer credit;
  iv) Applicants are required to present an official transcript from the post-secondary institution with religious affiliation and may be required to present copies of course descriptions (in English).

- **Part-time Admission**

  Applicants who wish to pursue undergraduate studies on a part-time basis at McMaster must meet one of the admission criteria outlined in the sections above. If applicants do not meet any of these criteria, they may qualify for Mature Student Admission. For further information see the Part-Time Degree Studies section of this calendar.

- **Mature Students Admission**

  If you do not qualify for consideration under one of the above categories, McMaster will assess your eligibility as a mature student. You may be considered for limited admission to part-time study, provided all of the following conditions are satisfied:
  1. You have not attended secondary school or college on a full-time basis for at least two years.
  2. You have never attended university.

- **From Six Nations Polytechnic**

  McMaster University, along with four other universities, has entered into a partnership with Six Nations Polytechnic to offer university courses in the community of Six Nations. The courses offered are eligible for transfer credit at any of the universities within the consortium.

- **From Post-Secondary Institutions with Religious Affiliation**

  Undergraduate general academic studies taken at Bible colleges, theological colleges, and seminaries that are member institutions of the Association of Universities and Colleges of Canada (AUCC), affiliated with an AUCC member institution, or accredited by the Association of Biblical Higher Education (ABHE), the Association of Theological Schools (ATS), the Association of Institutions for Higher Learning in Jewish Education (AIJLE) or institutions listed by the Canadian Information Centre For International Credentials (CICIC) and/or the International Association of Universities (IAU) will be considered for admission and transfer credit based on the following:
  1. Applicants from accredited post-secondary institutions with religious affiliation:
     a) Applicants from an accredited post-secondary institution with religious affiliation completing academic work towards a recognized undergraduate degree program will follow the same policy for admission and transfer credit as for university transfer applications. For details see the heading From Universities in this section of the Calendar.
The following Level I programs have specific course requirements from secondary school as outlined:

- The Faculty of Science: requires satisfactory standing in Grade 12 Advanced Functions and Introductory Calculus U (or equivalent) and two of Grade 12 Biology U, Chemistry U, Geography U, and Discrete Mathematics, or Physics U (or equivalent).
- The Department of Mathematics and Statistics: requires satisfactory standing in Grade 12 U Advanced Functions and Introductory Calculus (or equivalent) and Grade 12 U Geometry and Discrete Mathematics (or equivalent).
- The Faculty of Business: requires Grade 11 U Mathematics (or equivalent).
- The Midwifery Program: requires Grade 12 U English (or equivalent), one of Grade 12 U Biology (or equivalent) or Grade 12 U Chemistry (equivalent), and one Grade 12 U or M course in Social Sciences (or equivalent) with a minimum of grade of 70% in each course.

The Nursing Program does not offer mature admission directly to the program. However, students interested in Nursing may be admitted as a mature student to another program. In order to be reviewed for admission to Nursing, students must complete the following processes:

- complete a minimum of 12 units of university level course work with a minimum cumulative average of 7.0
- fill out the Nursing supplementary application form by February 15th of the year in which they are planning to transfer.
- fill out the Application for Admission to Nursing on SOLAR (available on-line at the end of January) in the year in which they are planning to transfer.

Enrolment in this program is limited. Possession of the minimum admission requirements does not guarantee an offer of admission.

The Faculty of Engineering, the Arts & Science Program, the Bachelor of Health Sciences Program, the Medical Radiation Sciences Program, and the Kinesiology Program do not admit mature students.

If admitted to a program as a mature student, you must register to complete at least 12 units of course work (normally Level I courses) during the Fall/Winter session with no more than 8 units in each term (3 courses). Within the first 18 units, mature students will be limited to taking 3 units in each term of the Spring/Summer session.

Upon completion of 18 units, your performance will be reviewed according to the general academic regulations of the University. (See Level I Registration and Academic Standing Requirements under General Academic Regulations).

C. Senior Citizens

If you are 65 years of age or over, subject to meeting admissions and prerequisite requirements, you may register without payment of tuition and supplementary fees. The required full-time or part-time application fee must be paid and must accompany the appropriate application to the Ontario Universities' Application Centre (OUAC).

D. Visiting Students (Letter of Permission - For Credit At Another University)

If you are a student attending another university, you may apply to take McMaster courses for credit at your own institution. Please note, not all courses are available for credit outside McMaster and all are subject to enrollment limits.

You must initially apply through the Ontario Universities' Application Centre (OUAC) and send your Letter of Permission and an official transcript from your home institution directly to the Office of the Registrar at McMaster. Upon receipt, your transcript will be reviewed to ensure you have met the prerequisites for courses you plan to take at McMaster as detailed in your Letter of Permission. Approval of your application as a Visiting Student does not guarantee your registration in a course.

Subsequent requests to take courses on a Letter of Permission do not require another application, however, you must send an updated Letter of Permission and a current official transcript from your home institution to the Associate Dean's Office of the Faculty offering the course at McMaster. If you are attempting to register in courses offered by more than one Faculty, you must obtain approval from each Associate Dean's Office.

E. Graduates of McMaster Certificate/Diploma Programs

If you have completed certificate or diploma programs from McMaster, you may be granted advanced credit up to maxima specified by Undergraduate Council upon successful completion of the certificate/diploma program. Faculties will take into account the subject matter of both the certificate and degree programs. The credit will normally be applied against your elective courses. For more information concerning the amount of advanced credit granted, please refer to the Certificate and Diploma Programs section of this Calendar.

F. Post-Degree Students

If you are a university graduate or a person with professional qualifications who wishes to take one or more graduate courses but not proceed to an advanced degree, you may apply to McMaster as a post-degree student. To enroll as a post-degree student, you must apply to the appropriate departments and have your admission and registration approval by the School of Graduate Studies for each session in which you wish to take courses. You will register and pay fees as a graduate student.

Acceptance as a post-degree student carries no implications with respect to admission to advanced degrees, and even if such admission is granted subsequently, credit toward the advanced degree will not normally be granted for the work previously taken.

G. Listeners

If you are still uncertain about degree courses, you may register as a listener in a degree course at a reduced rate, but not for credit. You attend all classes, but do not complete any of the essays, tests and other formal requirements. You do not receive a grade for courses that you attend. Some students have eased their way into degree study with this option, subsequently applying for admission and enrolling in further courses for credit. Please note not all courses are available to Listeners.

For more information, please contact by mail: McMaster University Centre for Continuing Education, 50 Main St. E, 2nd Floor, Hamilton, Ontario, L8S 4L8 or visit the Centre. Telephone: (905) 525-9140, ext. 24321.

Written permission to attend must be obtained from the instructor delivering the course. An I.D. card cannot be issued until permission has been obtained.

H. Enrichment Program for Secondary School Students

If you are an outstanding secondary school student and wish to enrol in a university-level course while completing Grade 12 U and M courses in your final year of study, you may apply for the Enrichment Program. For more information contact the Office of the Registrar.

I. Former McMaster Degree Students

(Returning Students)

Readmission

If you are a former McMaster student who voluntarily withdrew from an undergraduate program more than five years ago and you wish to return to your studies, you must apply for Readmission through the Office of the Registrar. Students from the School of Nursing must apply for Readmission regardless of time elapsed following voluntary withdrawal.

If you were registered (have a record of course registrations) within the last five years and you left the university in good academic standing, it is not necessary for you to apply for Readmission. Normally, you will be permitted to register in your previous program or another program for which you qualify.

Reinstatement

See the General Academic Regulations section in this Calendar.

Second McMaster Degree

See the heading University Graduates Applying for a Second Bachelor's Degree in this section of the Calendar.

Continuing Studies

See the heading Continuing Students in this section of the Calendar.
J. Deferral of Admission

Students whose country of residence is Canada and who received an offer of admission and accepted the offer prior to the specified deadline may apply to defer their entry to McMaster for one year. Each case is evaluated on its own merits.

All requests for deferral of admission should be made in writing to the Office of the Registrar at McMaster by September 1, 2007 outlining the reasons for the request. Normally, decisions regarding deferral requests are not made until August or September, after the receipt of all final grades.

If a deferral is granted, it is conditional upon the student not attending a secondary or post-secondary institution during the deferral period. Students will be required to re-apply through the OUAC on the 105 application form to reactivate their application by no later than March 1st or the specific deadline date for the program, whichever is earlier.

4. TRANSFER CREDITS

A. General Policy on the Transfer of University Course Credits

To facilitate program completion by undergraduate students seeking to transfer course credit from an accredited university to McMaster, the University has implemented the following principles:

1. Acceptance of transfer credits from accredited universities shall be based on the recognition that, while learning experiences may differ in a variety of ways, their substance may be essentially equivalent in terms of their content and rigour. Insofar as possible, acceptance of transfer credit shall allow for the maximum recognition of previous learning experience in university-level courses.

2. Subject to degree, grade and program requirements, any course offered for credit by an accredited university shall be accepted for credit by McMaster when there is an essential equivalency in university course content. However, no course for which a grade of less than C- (60%) has been achieved will be considered.

3. Evaluation of all possible transfer credits available at the time of admission must be completed within one year of the date of admission to the University.

B. From Colleges of Applied Arts and Technology

Normally, if you are a well-qualified graduate of a three-year program, and the college work is appropriate to your chosen university program, you could receive up to 30 units of advanced credit. If you have completed a two-year program and performed well, you could receive at least six units.

Credit beyond this may be given on an individual basis where the college and university programs are in similar areas, and where your academic record warrants special consideration.

Please note that for all programs, a diploma must be completed to be eligible to receive advanced credit.

In the granting of credit, attention will be given to:

1. your performance in the college program;
2. the duration of the college program;
3. the program taken at the college and the program to which entry is sought;
4. your secondary school record.

Each case will be considered individually on its own merits for the program desired.

Applicants presenting a strong academic record may be considered for an early conditional offer of admission.

C. Advanced Credit

Subject to the discretion of the Faculty, advanced credit may be granted if you have completed the International Baccalaureate (I.B.) Diploma, the Advanced Placement (A.P.) Program, or the General Certificate in Education (G.C.E.), and you have met the minimum requirements prescribed. Advanced credit may shorten your degree program at McMaster.

D. Credit In Courses by Special Assessment (Challenge Examinations)

If you have acquired knowledge at different type of institution or in a manner that makes assessment of your qualifications difficult, you may be permitted to seek degree credit through special assessment (Challenge for Credit).

Challenge for credit is not intended to give credit for skills or knowledge gained through high school, college or previous university instruction. The special assessment may include one or more of the following: written examinations, papers, essays, submissions of a substantial body of work, or portfolios, or laboratory tests. Credit can be granted only for those courses listed in the current McMaster calendar. Not all courses in all disciplines are available for challenge. Faculties and departments are free to determine which, if any, of their courses are open for special assessment. Challenges are assessed on a pass/fail basis. The passing grade for a challenge appears on the transcript as COM (Complete) and is not used in computing averages or evaluating honours or scholarship standing, but is counted as a course attempt. Unsuccessful attempts will be noted on the transcript. Special Assessment is not available for a course taken previously and a course may be attempted only once by special assessment.

Once you have registered for a course by such means (known as challenge exams) the registration may not be cancelled and you may not withdraw from the course.

Waivers of prerequisites only (i.e., no degree credit) will be at the discretion of the department.

5. ENGLISH LANGUAGE PROFICIENCY

If your first language is not English, you must demonstrate English language proficiency by achieving a score of at least 86 and a minimum score of 20 on each of the four component parts of reading, listening, speaking and writing on the IBT; or 237 on the computerized test (CBT); or 580 on the paper-based test (PBT) on TOEFL, or the equivalent on other recognized tests.

You may be exempted from this requirement if you meet one of the following requirements:

1. Attended, in full-time academic studies, an accredited Secondary School (High School) or Post-Secondary College in an English-speaking country for at least three years, OR
2. Attended, in full-time academic studies, an accredited English medium Secondary School (High School) or Post-Secondary College for at least three years, OR
3. Attended, in full-time academic studies, an accredited English medium University for at least one year, OR
4. Resided in an English speaking country for at least four years immediately prior to application to McMaster.

It is your responsibility to make all arrangements regarding the writing of the TOEFL test or other recognized tests and to have the official score report forwarded to the Office of the Registrar in a timely manner.
APPLICATION PROCEDURES

How to Apply
1. Determine the appropriate application form and/or procedures. (See Categories of Admission below.)
2. Determine application deadline. (See Deadlines on following page.)
3. Refer to the Admission Requirements and specific Faculty sections of this Calendar for further information.
4. Complete and submit your application as directed.
5. Submit all required documentation to McMaster. (See Documents on following page.)
6. Once your application has been received, McMaster's Admissions Office will send you an acknowledgement.

1. CATEGORIES OF ADMISSION

A. Current Ontario High School Students
If you are currently registered as a full-time day school student in an Ontario secondary school and wish to begin university studies in September
> Use the Compass 101 on-line application at www.ouac.on.ca/101/. Please consult with your secondary school guidance office regarding this application process.

B. All Other Canadian High School Students
If you are currently attending secondary school outside of Ontario or have recently completed a secondary school diploma in any Canadian province or territory
> Use the OUAC 105D on-line application at www.ouac.on.ca/105D.

C. High School Students with International Qualifications
If you are currently attending or have recently completed a secondary school program outside of Canada
> Use the OUAC 105F on-line application at www.ouac.on.ca/105F.

D. University/College Transfer Students
If you are currently registered in or have completed an undergraduate degree program at another university and wish to attend McMaster OR
If you are currently registered in or have completed a college diploma program and wish to attend McMaster
> Use the OUAC 105 on-line application at www.ouac.on.ca/105F.
Applicants residing in Canada (Canadian citizens, permanent residents or applicants studying in Canada on a student permit or other visa) should use the 105D form. Applicants currently residing outside of Canada who are not Canadian citizens should use the 105F form.

E. Students Applying to Nursing Consortium Programs
If you are interested in applying to McMaster’s Nursing (B.Sc.N.) program at the Mohawk College or Conestoga College sites
> Apply on-line through the Ontario College Application Services (OCAS) at www.ocas.on.ca.

F. Previous McMaster Degree Students
(Returning Students)
1. Readmission: If you are a former McMaster student with a record of course registrations who was in good standing and who voluntarily withdrew from an undergraduate program more than five years ago (providing you have not attended another university nor received a college diploma since last registered at McMaster). If you are a former Nursing student, you must apply for readmission regardless of the amount of time that has elapsed.

2. McMaster Second Degree: If you are a McMaster graduate or potential graduate and wish to pursue a second undergraduate degree (providing you have not attended another university nor received a college diploma since last registered at McMaster).
> Use the McMaster Returning Student Application to apply on-line at registrar.mcmaster.ca/external/achs-retur.htm.

3. Reinstatement: If you are a former McMaster student who was previously ineligible to continue studies at McMaster (providing you have not attended another university nor received a college diploma since last registered at McMaster).
> Obtain the Reinstatement Request Form from the Office of the Registrar, Gilmour Hall, Room 108, McMaster University, Hamilton, Ontario, L8S 4L8.

4. Continuing Student: If you are a McMaster graduate and wish to become a Continuing student
> You do not need to apply for admission. Simply submit a Registration.

G. Visiting Students (Letter of Permission - For Credit at Another University)
If you are currently registered at another university and wish to attend McMaster to take courses on a Letter of Permission for credit at that university
> Use the OUAC 105 on-line application at www.ouac.on.ca/105/ to apply for full-time studies.
> Use the Part-Time Degree Studies application to apply on-line (to McMaster only) at registrar.mcmaster.ca/external/achs-partt.htm to apply for part-time studies.

H. Students Seeking Part-Time Degree Studies at McMaster Only
If you wish to begin undergraduate studies in September, May or June or if you wish to take undergraduate courses on a part-time basis (registered in 15 units or less)
> Use the Part-Time Degree Studies application to apply on-line (to McMaster only) at registrar.mcmaster.ca/external/achs-partt.htm. (If you wish to apply to other Ontario universities as well, use the OUAC 105 application to apply on-line at www.ouac.on.ca/105.)

I. Students Seeking Post-Degree Studies
If you wish to register as a post-degree student (taking graduate courses but not proceeding to an advanced degree)
> Download the Post-Degree Studies Application from www.mcmaster.ca/graduate/deptforms.html or contact the Graduate Studies Office, Gilmour Hall, Room 212, McMaster University, Hamilton, Ontario, L8S 4L8. Use the form to apply to the appropriate academic department(s).

J. Students Applying to the Medical Program
See the heading Admission Policy for the Medical Program in the Faculty of Health Sciences section of this Calendar.
A. Required Documents

A complete application includes: an application form, relevant transcripts, and all other documentation stipulated in the Admission Requirements and specific Faculty sections of this Calendar, in letters from the appropriate Faculty and/or in letters from the Office of the Registrar.

You must provide McMaster with official transcripts of marks and/or certificates from all secondary and post-secondary institutions you have attended. If you are currently attending secondary school, please see your guidance counsellor to obtain a transcript. If you have previously attended secondary school in another province, you may need to obtain the transcript of secondary school marks from the Ministry or Department of Education in that province.

Since the language of instruction at McMaster is English, we would prefer all documentation to be in the English Language. However, documentation in Canada’s other official languages, French, will be accepted. Clear notarized photocopies of documents in a language other than English should be accompanied by notarized English translations. Clear photocopies of English language certificates must be notarized.

The University may rescind an admission and cancel a registration if it finds that an applicant for admission has, in the process, provided false or incomplete information.

B. Retention of Documents

All documentation submitted in support of your application for admission becomes the property of the University and is not returnable.

If you are not accepted, or you fail to enrol following acceptance, your documentation will be destroyed at the end of the admissions cycle. If you reapply, you must submit any new academic information in addition to the documentation submitted previously.

3. DEADLINES

All Level I programs have enrolment limits and may become full prior to published deadlines. The University reserves the right not to accept applications submitted after a program is full. You are advised to submit your application well in advance of the deadlines given below.

A. FALL/WINTER SESSION (SEPTEMBER 2007 ENTRY)

Undergraduate programs which are not specified below: June 1

- International Applications ........................................ April 1
- International Documentation ..................................... April 1
- Domestic Applicants ............................................. June 1
- Domestic Documentation ......................................... June 1
- Optional Supplementary Applications
  for Level I Programs ........................................... April 30
- Arts & Science Applications .................................. February 9
- Supplementary Applications ................................ February 9
- Level III Science Cooperative programs ..................... February 1
- Gerontology Applications ..................................... May 15
- Health Sciences (Honours) Applications .................... February 9
  Supplementary Applications (Lv I) ........................... February 9
  Supplementary Applications (Above Lv I) ................. April 29
- Health Studies .................................................. May 15
- Kinesiology ........................................................ May 15
- Labour Studies ................................................... May 15
- Medicine ........................................................... October 1
- Midwifery Applications ........................................ February 1

Offical Transcripts ............................................ February 1

Midwifery Application Forms*................................. February 1

B. FALL/WINTER SESSION (JANUARY ENTRY)

- Bachelor of Technology Degree Completion ........ November 15
- Documentation Deadline ........................................ December 1

January entry is available for the above programs only.

C. SPRING/SUMMER SESSION (MAY OR JUNE ENTRY)

- May Entry (Term 1 or 3) ........................................ April 1
- June Entry (Term 2) ............................................ May 15
- Readmission Deadline ........................................... April 1

D. Reinstatement or Readmission Deadlines

- September Entry (all programs, except Nursing++)
  Reinstatement Deadline ........................................ June 30
  Readmission Deadline ......................................... July 15
- Nursing Readmission Deadline ................................. February 15

Application deadlines for May or June entry are as indicated under the corresponding headings above. Application is not available as an entry point for Reinstatement or Readmission.

E. Academic Counselling for Admitted Students

If you are offered admission to a program at McMaster, you will be asked to confirm that you have accepted the offer of admission and will attend the University. Your admission package will include information regarding registration procedures.

If you are admitted to Level I, your Faculty may also arrange a visit to the University so you may meet with a Faculty advisor to set up your program. Although attendance at the summer counselling and registration sessions is not compulsory, you are strongly advised to participate. If you cannot attend one of these sessions, counselling will be provided in September.

If you are offered admission above Level I, you may arrange for academic counselling with the Office of the Associate Dean of the Faculty offering the program, or the Office of the Director of the program.

F. Enquiries

Please direct your enquiries about Application Procedures to:

OFFICE OF THE REGISTRAR
Gilmour Hall, Room 108
McMaster University
Hamilton, Ontario, L8S 4L8
Telephone: (905) 525-4600
www.macADMIT.ca
www.macIQ.ca

- Nurse Practitioner Certificate ................................ March 1
- Nursing (Ontario Secondary School) ........................ May 1
  Transfers from other university Nursing Programs
  McMaster Site ................................................. June 30
  Mohawk and Conestoga Site ................................ May 15
- All Other Nursing applicants ................................ February 15
  Supplementary Applications* ................................. February 15
- Social Work
  McMaster Applicants .......................................... March 1
  All Others ................................................... December 1
  Supplementary Applications*** ............................. March 1
- Women's Studies ................................................ April 15
GENERAL ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY

In its commitment to helping students achieve their academic goals, McMaster University makes available numerous tools and resources, including the Undergraduate Calendar, degree audits and academic advisors. However, students must assume certain responsibilities. They include:

• meeting admission requirements for a program
• applying to that program by the stated deadline
• selecting courses that meet the program requirements
• completing courses in an order that meets prerequisite requirements
• becoming familiar with and respecting University sessional dates (see Sessional Dates section of this Calendar), the general academic regulations (see General Academic Regulations section of this Calendar) and the Faculty/Program/School specific regulations as found in the appropriate section of this Calendar

Experience has shown that students who do not follow these guidelines may experience academic consequences such as cancellation of registration in courses, completion of courses that are not counted towards their degree, or delayed graduation. In addition to the responsibilities listed above, students are expected to:

• become familiar with and respect the Senate Policy Statements (see Senate Policy Statements section of this Calendar)
• pay, within the prescribed deadline, undergraduate fees
• be aware that changes to course load and program may affect eligibility for government financial aid (e.g. OSAP and out-of-province student loan programs), University financial aid (e.g. bursaries and work programs) and scholarships
• consult with the Centre for Student Development in a timely manner to make the necessary accommodations for special needs.

ACADEMIC REGULATIONS

The regulations which follow are the general regulations of the University. You should read both these general regulations and your Faculty regulations which may be more specific. They appear in the Faculty sections of this Calendar.

Since the Academic Regulations are continually reviewed, we reserve the right to change the regulations in this section of the Calendar. This University also reserves the right to cancel the academic privileges of a student at any time should the student's scholastic record or conduct warrant so doing.

In the event there is a conflict between the program regulations and the general regulations in this chapter, the program regulations take precedence.

Faculties are authorized to use discretion in special situations by taking into account past practice, the spirit of the regulations, and extraordinary circumstances. Students who believe their situation warrants special consideration should consult the appropriate Office of the Associate Dean.

The Academic Regulations listed below are effective as of September 1993. These regulations apply to all undergraduate students admitted or readmitted to the University from September 1993 onward.

1. UNIVERSITY REGULATIONS

Residence Requirements

While most students will complete all their undergraduate work at McMaster University, the minimum requirements set out below apply to students who take part of their work at other institutions. In order to obtain any four- or five-level, first undergraduate degree, you must complete at least two of the levels (approximately 60 units of work) beyond Level I, including the final level, at McMaster.

To obtain a three-level, first undergraduate degree, you may satisfy the residence requirements either:

1. by completing the final level and at least one other level (a minimum of approximately 60 units of work) at McMaster University;

2. by completing the final level (approximately 30 units of work) at McMaster University, including at least 18 units of program-specific courses.

The work used to satisfy the residence requirements must be completed at McMaster University; work taken at another university on a Letter of Permission will not count toward the minimum residence requirements.

All the work for a second bachelor's degree must be completed at McMaster University.

Registration

Policy on Access to Undergraduate Courses

McMaster's policy on access to Undergraduate courses is designed to ensure that resources are properly managed while enabling students to meet their program admission requirements and course requisites can be met, and that their program of study is not extended.

1. Enrolment capacities are set on all undergraduate courses taking into account enrolment projections along with resources, enrolment trends and type of course (required or elective).

2. If need exceeds approved capacity, enrolment capacities for corequisites will be exceeded and may be adjusted later.

3. Faculties and Department Offices are responsible for determining which courses require seats held back. These holdback seats must be managed so that students are able to complete program admission requirements, meet course requisites and register in courses required to meet their program of studies in a timely manner.

4. If students are selecting from a list of required courses, access to a specific course is not guaranteed when there is another course available to meet a specific degree requirement.

■ Registration: The purpose of registration is to officially record your programs and courses. Information on how to register is available online on the web site of the Office of the Registrar at the following url: http://registrar.mcmaster.ca/gettingregistered/. You are responsible for ensuring that your registration information is complete, and that your course selection meets your program admission requirements and course requisites can be met, and that their program of study is not extended.

■ Counselling is available to assist you in course selections.

■ Admission to Programs: Admission to and transfer between programs must be approved by the Office of the Associate Dean of your Faculty.

■ Selection of Courses: Before you select the courses you wish to take, please read the requirements for your program in the applicable Faculty sections of this Calendar. You are responsible for ensuring that your course selection meets the requirements of your degree. If you fail to meet the program requirements, you will not be eligible to graduate.

Select the courses required for your program; then select your electives. Ensure that you have completed the courses which are listed as prerequisites, have completed or chosen courses that are listed as corequisites, and that the course requisites have been obtained, if required. If you do not have the course requisites, you will not be able to take the course selected.

■ Changes to Registration: The last day for adding or dropping courses is approximately one week after classes begin for each term. (Please see the tables in the Sessional Dates section for the relevant dates for each term of the academic year.) After the above-mentioned period, you may cancel courses until the last day to withdraw without failing the course and receiving a grade of "W"(Withdrawal) or "WF" (Withdrawal Failure) on your transcript. If you fail to withdraw before the last day, you will receive a grade of "F" (Fail) on your transcript. After this date, you will remain registered in courses whether or not you attend classes. Your transcript will show a grade of F for any course not successfully completed.

You are responsible for ensuring that your course selection meets the requirements of your degree. You should review your personal degree audit on the working day following each time you add or drop courses. If you have questions, contact a student advisor in the Office of the Associate Dean of your Faculty if you have questions. Changes to your course load may also affect your fees and your eligibility for scholarships and financial aid such as OSAP:
Limit on Level I Courses: In most Faculties, you may not obtain credit in more than 42 units of Level I courses in a three-level program, or more than 48 units in a four-level program.

Eligibility for Awards: (See Section 6 in this section and Undergraduate Academic Awards section for more information.)

Overload Work: If you wish to take more than the normal number of units prescribed for a Level, you may do so only with the permission of the Office of the Associate Dean of your Faculty. Normally, a Sessional Average of at least 7.0 in the immediately preceding review period will be required if an overload is to be permitted. Additional academic fees will be assessed for overload work. (See Financial Information section.)

Load in Spring/Summer Session: If you wish to take more than 12 units in the Spring/Summer Session, or more than six units in either term of that Session, you may do so only with the permission of the Office of the Associate Dean of your Faculty.

Repetition of Courses: Students may repeat courses that have been failed or for which credit has been obtained a number of times, with the exception of the students in the Faculty of Business who may only attempt a course in which they have failed the grade for all attempts appear on the transcript and enter into the computation of the Cumulative Average. However, only one successful attempt will enter into the computation of credit earned towards your degree.

Auditing Courses: If you are a currently registered student in a degree program and you do not wish to have credit for a course, you may, with the approval of the Chair of the Department and the Office of the Associate Dean, audit the course. You must satisfy the prerequisite for the course, but will not complete assignments nor write the final examinations. You will not be permitted to register for credit in the course after the registration deadline for the session has passed.

Letters of Permission: If you are in good academic standing at McMaster and you wish to attend another university to take courses for credit towards a McMaster degree, you must obtain permission ahead of time. To do this you must seek a Letter of Permission from the Office of the Associate Dean. Please take note of any conditions that might apply, including the requirement of a grade of at least C- for transfer credit. You should note that the grades obtained in courses taken at another university will not be included in the Cumulative Average. Full-time students taking courses for credit at another university must continue to register for a minimum load of 12 units at McMaster during the Fall/Winter session if they wish to be considered for Undergraduate In-course Academic Awards; i.e. courses taken on a Letter of Permission do not count toward your load for purposes of academic awards.

Withdrawal from the University: If you wish to withdraw from the University, you must consult the appropriate Office of the Associate Dean. Your student identity card must be surrendered to the Office of the Associate Dean. Your course record will be handled as outlined above in Changes to Registration.

Transfer of Credit between Faculties: Transfer of credit between Faculties is handled by the Office of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given for all units which you have transferred. The grades for all attempts appear on the transcript and enter into the computation of the Cumulative Average. However, only one successful attempt will enter into the computation of credit earned towards your degree.

Calculation of Cumulative Average Following Reinstatement After Poor Academic Performance: Effective September 1997, if you are reinstated at the University, your Cumulative Average will be reset to 0.0 on zero units, although you may (at Faculty discretion) retain credit for prior work. If you are reinstated, you will be on academic probation. You must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation With Distinction or other recognition based on the Cumulative Average.

International Study

If you wish to engage in international study, you may do so either by participating in one of the formal exchange programs that exist between McMaster and a number of universities in other countries; by participating in one of the programs available through specific Faculties; or by independent study abroad.

Formal exchange programs are those in which McMaster has an agreement with another institution involving a temporary exchange of students. As an exchange student, you register and pay your tuition fees, and supplementary fees at McMaster. No tuition is paid at the foreign institution. If you are interested in participating in a formal exchange program, you can obtain further information and an application form from the International Student Services Office, Gilmour Hall, Room 104. Application forms are normally due mid-January for exchanges expected to begin the following September. Admission is by selection. A registration checklist is available to assist you in making all necessary arrangements.

McMaster also offers other programs which allow you to spend all or part of your third year of a four-year program at another institution. You register but do not pay tuition at McMaster. These programs are not available at universities with which McMaster University has a formal exchange agreement. For more information on these programs, please see your Faculty advisor or the International Student Services Office.

Students must recognize and accept the fact that, in many countries of the world, especially the newly-emerging nations, change may be the only constant. There are no guarantees that certain courses will be offered or that housing will be as one might expect. Spending time on an exchange program or an independent study abroad program offers an opportunity to develop one's adaptability and resourcefulness in the face of new situations. McMaster University cannot be held accountable for unforeseen changes in the host country.

For information about programs and universities, please contact the International Student Services Office, Gilmour Hall, Room 104.

2. ACADEMIC STANDING AND PROGRAM REQUIREMENTS

Academic Standing

Academic standing is reviewed in May and August each year for students who
1. have attempted at least 18 units of work since the last review; or
2. may be eligible to graduate at the next Convocation; or
3. were admitted under the part-time mature student provision and have attempted the first 12 units of work.

In the review of academic standing, three sets of decisions are made:
1. whether a student may graduate;
2. whether a student may continue at the University; and
3. whether a student may continue in a program.

Minimum Requirements to Continue at the University

All students must maintain a CA of at least 3.5 at each review to continue at the University. Under certain circumstances, as described below, students may be allowed to continue on academic probation for one reviewing period with a CA of 3.0 to 3.4. If your CA is less than 3.0, you may not continue at the University.

Level I Registration and Academic Standing Requirements

When you are admitted to McMaster University for a first degree, you will register in one of the following Level I programs: Arts and Science I, Business I, Engineering I, Health Sciences I, Humanities I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Science I, Midwifery I, Music I, Science I, Social Sciences I. If you enter the University without Advanced Standing being granted, you must normally attempt a full load of Level I work before proceeding to the work of higher levels.

If you are studying part-time, the Office of the Associate Dean has the discretion to permit you to take some of the work in the higher level prior to having attempted the full load of Level I. Decisions will be made on an individual basis, according to the special circumstances that apply in the particular case.

At any review during Level I before you complete the Level I work, as in the case of a part-time student, you must attain a CA of at least 3.5 to continue at the University in good standing. If you attain a CA of 3.0 to 3.4 you may remain in good standing for one reviewing period, but will be placed on academic probation. You may be on academic probation only once during your University career. If your CA is less than 3.0 you may not continue at the University.
Minimum Requirements for Entering and Continuing in a Program Beyond Level I

Admission to the programs beyond Level I is based on performance in Level I. You must meet both the minimum requirements to continue at the University, as described above, and program-specific requirements of each Faculty, as described in this Calendar.

ARTS & SCIENCE PROGRAM

- **B.A. Sc. (Honours) and B.A. Sc. Programs:** You must have a CA of at least 6.0 to continue in the program. If your CA is from 5.5 to 5.9, you may remain in the program, but will be placed on program probation for one reviewing period. You may be on program probation only once.

- If your CA is 3.5 to 5.4, you must transfer to another program for which you qualify, or register in the Art & Science Program as an irregular student for one reviewing period. During that period you cannot take Arts & Science Program courses. At the end of that period you may apply for readmission to the Arts & Science Program.

- If your CA is 3.0 to 3.4, you will be placed on academic probation. You must apply for readmission to the Arts & Science Program for one reviewing period as an irregular student but cannot take Arts & Science Program courses. The purpose of this period is to prepare yourself for a program outside the Arts & Science Program. You may be on academic probation only once. (Potential graduands may not continue at the University.)

- If your CA is less than 3.0, you may not continue at the University.

SCHOOL OF BUSINESS

- **Business I:** For specific admission requirements to Commerce II see Program Notes under the heading Programs in the School of Business section of this Calendar. If you are not admitted to Commerce II at the end of Business I, you have the following options available to you.

  If your CA is 3.5 or greater, although you may not continue into a Commerce program either now or in the future, you are still in good standing at the University. You may continue at the University in a program outside the School of Business or as an irregular student in Business. To continue in a program outside the School of Business you must apply for admission to that program through the Office of the Associate Dean appropriate for that program. You should consult that office for more details.

  If you are not admitted to another Faculty you may register in the School of Business as an irregular student for one reviewing period. During that period you cannot take Commerce courses and you will not be eligible for consideration for admissitance to Commerce II or readmittance to Business I. The purpose of your registration as an irregular student is to make yourself eligible for admission to a program outside the School of Business. If you have a CA of 3.0 to 3.4, you will be on academic probation and may continue at the University for one reviewing period as an irregular student in the School of Business but will not be permitted to take any Commerce courses. At the end of your probation period you will not be eligible for consideration for Commerce II or readmittance to Business I. The purpose of the probation period is to make yourself eligible for a program outside the School of Business.

  If you have a CA of less than 3.0 at the end of Business I you may not continue at the University either on a full-time or part-time basis.

- **Commerce II:** Upon satisfactory completion of Commerce II, qualified students may continue in one of the following programs:

  - **Honours B.Com. Program:** You must have a CA of at least 6.0 to enter the Honours B.Com. program in Level III or IV to continue in the Honours B.Com. program. Once admitted, if your CA is 5.5 to 5.9, you may continue in the Honours B.Com. program, but will be placed on program probation. You may be on program probation for one reviewing period only, after which you may not continue at the University. Regardless of your CA, if you receive more than six units of failure in required courses after entry to Level II Commerce, you will not be permitted to continue in a program in the School of Business.

  - **B.Com. Program:** You must have a CA of at least 4.0 to continue in the B.Com. program. If your CA is less than 3.0, you may not continue at the University for one reviewing period. If your CA is 3.0 to 3.9, you may continue in the B.Com. program on program probation for one reviewing period (as specified in the Glossary section of this Calendar). If your CA is less than 3.0, you may not continue at the University. Regardless of your CA, if you receive more than six units of failure in required courses after entry to Level II Commerce, you will not be permitted to continue in a program in the School of Business.

  - **B.A. Sc. (Honours) and B.A. Sc. Programs:** You must have a CA of at least 6.0 to continue in the program. If your CA is from 5.5 to 5.9, you may continue in the program, but will be placed on program probation for one reviewing period. You may be on program probation only once. If your CA is 3.5 to 5.4, you must transfer to another program for which you qualify, or register in the Arts & Science Program courses. At the end of that period you may apply for readmission to the Arts & Science Program.

    - If your CA is 3.0 to 3.4, you will be placed on academic probation. You must apply for readmission to the Arts & Science Program for one reviewing period as an irregular student but cannot take Arts & Science Program courses. The purpose of this period is to prepare yourself for a program outside the Arts & Science Program. You may be on academic probation only once. (Potential graduands may not continue at the University.)

    - If your CA is less than 3.0, you may not continue at the University.

  - **School of Business:** You may continue in the program for one reviewing period as an irregular student but cannot take Arts Science Program courses. At the end of the next reviewing period, you may no longer be considered for admission to a program in another Faculty. If, at the end of the next reviewing period, you again do not qualify for admission to a program, you may not continue at the University. If your CA is less than 3.0 you may not continue at the University. Students in Arts & Science I should refer to the Arts Science Program regulations listed below.

  - **Health Sciences I, Nursing I and Midwifery I:** Students should refer to the program regulations listed in the Faculty of Health Sciences section in this Calendar.

  - **Continuing in a Program Beyond Level I:** If you have a CA of at least 3.5, you may continue in the program in the School of Business. If your CA is 3.0 to 3.4, you will be placed on academic probation. You must maintain a CA of at least 4.0 to continue in an Engineering program or in the Honours B.Com. Computer Science or Honours Business Informatics programs. If your CA is 3.0 to 3.9, you may continue in the Faculty. If your CA is less than 3.0, you may not continue at the University.

  - **B.Tech Programs:** For specific minimum requirements, please see the descriptions for the individual programs within the Faculty of Engineering section of this Calendar.

FACULTY OF HEALTH SCIENCES

- For specific minimum requirements, please see the descriptions for the individual programs within the Faculty of Health Sciences section in this Calendar.

FACULTIES OF HUMANITIES AND SOCIAL SCIENCES

- **Honours B.A. Programs; B. Mus. Program; B.A./B.S.W. and B.S.W. Programs:** You must have a CA of at least 6.0 to continue in an Honours program. If your CA is 5.5 to 5.9, you may remain in that Honours program. If your CA is less than 3.0, you may not continue at the University. If your CA is 3.0 to 3.4, you will be placed on program probation. You may be on program probation only once. If your CA is 3.0 to 3.4, you will be placed on academic probation. You must apply for readmission to the Arts & Science Program for one reviewing period as an irregular student but cannot take Arts & Science Program courses. The purpose of this period is to prepare yourself for a program outside the Arts & Science Program. You may be on academic probation only once. (Potential graduands may not continue at the University.)

- **Honours B. Kin. Program:** To be admitted to a Level II Honours Kinesiology program, you must have completed all Kinesiology program requirements with a Cumulative Average of at least 6.0 including an average of at least 6.0 in KINESIOL 1A06, 1E03, 1H03. Upon completion of Kinesiology I, students who have achieved an average of at least 6.0 in KINESIOL 1A06, 1E03, 1H03 and whose CA is between 3.5 and 3.9, you may remain in the Honours Kinesiology program. If your CA is 5.5 to 5.9, you may remain in the program. If your CA is less than 3.0, you may not continue at the University. Students who fail to meet the minimum requirements for transfer to Honours Kinesiology must transfer to a non-Kinesiology program for which they qualify.
B.A. Programs: You must have a CA of at least 3.6 to continue in a three-degree B.A. program. If your CA is 3.0 to 3.4, you may remain in the program, but will be placed on academic probation. You may be on academic probation only if your CA is less than 3.0, you may not continue at the University.

FACULTY OF SCIENCE

Honours B.Sc. Programs: You must have a CA of at least 6.0 to continue in an Honours B.Sc. program. If your CA is 5.5 to 5.9, you may remain in the Honours B.Sc. program, but will be placed on program probation. You may be on program probation for only one reviewing period. If your CA is less than 5.0, you must transfer to another program for which you qualify. If your CA falls below 3.0, you may not continue at the University.

Honours B.Sc. Kinesiology Program (Effective 2008-2009): You must complete Honours Kinesiology with a CA of at least 6.0 including an average of at least 6.0 in KINESIOL 1A03, 1A33, 1C03, 1E03, 1F03, 1G03. If, upon completion of Honours Kinesiology, I, you have achieved an average of at least 6.0 in KINESIOL 1A03, 1A33, 1C03, 1E03, 1F03, 1G03 and have a CA between 5.5 and 5.9, you may register in Level II Honours Kinesiology but will be placed on program probation for one reviewing period. You may be on program probation only once. If, upon completion of Honours Kinesiology, I, you have achieved an average of at least 6.0 in KINESIOL 1A03, 1A33, 1C03, 1E03, 1F03, 1G03 and have a CA between 3.5 and 5.4, you may register in Level II Kinesiology General and, with permission, take Level II Kinesiology required courses. At your next review, you must achieve a CA of at least 6.0 to transfer to an Honours Kinesiology program. If, upon completion of Honours Kinesiology, II, your CA is 3.5 to 5.4, you may register in Level II Kinesiology General for one reviewing period. During that period you may not take Level II Kinesiology courses but may upgrade or repeat Level I Kinesiology courses. At the end of that period if you have achieved an average of at least 6.0 in KINESIOL 1A03, 1A33, 1C03, 1E03, 1F03, 1G03 and your CA is between 3.5 and 5.4, you may register in Level II Kinesiology General for one reviewing period. During that period you may not take Level II Kinesiology courses but may upgrade or repeat Level I Kinesiology courses. At the end of that period if you have achieved an average of at least 6.0 in KINESIOL 1A03, 1A33, 1C03, 1E03, 1F03, 1G03 and have a CA of at least 6.0 you may transfer to the Honours Kinesiology program. If you fail to meet the minimum requirements for transfer to Honours Kinesiology, you must transfer to a non-Honours program for which you qualify.

B.Sc. Programs: You must have a CA of at least 3.5 to continue in a three-degree B.Sc. program. If your CA is 3.0 to 3.4, you may continue on academic probation for one reviewing period. You may be on academic probation only. If your CA is less than 3.0, you may not continue at the University.

M.R.Sc. Program: You must complete all the course requirements prescribed for Medical Radiations Sciences I by the end of term 2 of Level I, with a CA of at least 5.0 or permission of the Committee of Instruction (Chair Medical Radiations Sciences (Mohawk), Coordinator Medical Radiations Sciences (McMaster), Coordinator Radiation Therapy Specialization, Coordinator Radiography Specialization, Coordinator Ultrasoundography Specialization).

Reinstatement

If you are ineligible to continue at the university (i.e. the result of session on your last grade report was May Not Continue at University) and you wish to apply for Reinstatement, please contact the Office of the Registrar. You will be required to submit the following information along with your application:

1. A summary of the relevant circumstances surrounding your academic situation during the last session attended.
2. Reasons for reinstatement at this time.
3. Reasons for selection of courses/program indicated.
4. Activities since last registered at the University, including all academic work.

Some Faculties may require a supplemental application form or letters of reference. Consult the appropriate Faculty section in this Calendar for details.

Reinstatement is not possible with the approval of the Associate Dean to which you wish to transfer. It is possible that full credit may not be given at the time of transfer between Faculties and additional courses may need to be taken.

Minors

If you are enrolled in a four- or five-level program (with the exception of the Medical Radiations Sciences program which is a three-level program offered over a four-year period), you are eligible to obtain a Minor in another subject area if you have achieved a CA between 5.5 and 6.0 in the subject area is not integral to the requirements of your degree program. You should check the calendar requirements statement for your program in the case of Science programs, or check with your Faculty in the case of other programs, for subject areas that are excluded from consideration as a Minor in your program.

If you wish to receive a Minor, you should check the information under the heading Minor in the appropriate department's listing. McMaster also offers Interdisciplinary Minors in Archaeology and Jewish Studies. (See Interdisciplinary Minors and Thematic Areas section.) You will be responsible for ensuring that you register in the required Minor courses. Upon graduation, you will officially be registered as a Minor subject. No more than six of these units can be at Level I, unless otherwise stated in the specific requirements of the minor. At least 18 units must be completed at McMaster.

In the final year of your program, when you file your Graduation Information Card, you must indicate your desire to receive a Minor or a subject. The Faculty Reviewing Committee will verify that the requirements have been met. If you are successful, your transcript will contain a designation for Minor in that area. See Sessional Dates section for deadlines.

Minors cannot be revoked once approved. (See Note 4 under Second Bachelor's Degree Programs.)

Second Bachelor's Degree Programs

For admission to a second undergraduate degree program you must hold a first undergraduate degree whether it is a three-level, four-level or five-level degree. The minimum admission requirements and program of study for the second degree depend on the subject areas of the two degrees.

Honours Degree following a Three-Level Degree in the Same Subject: For entry, a Cumulative Average of at least 6.0 in the first degree program is required. If admitted, you must take at least 30 units beyond the first degree, including all Honours requirements specified for the program. In some Faculties, this includes a minimum number of units of work in the discipline.

Honours B.A. or B.Sc. in Another Subject: For entry, you must meet the admission requirements for the program. If admitted, you must complete at least 30 units beyond the first degree, including all program requirements. In some Faculties, this includes a minimum number of units of work in the discipline.

Honours B.A. or B.Sc. in Another Subject: For entry, you must meet the admission requirements for the program and have a Cumulative Average of at least 6.0 in the first degree program. You may complete at least 60 units beyond the first degree, including all Honours requirements specified for the program.

B. Eng. and B.A.Sc.: For entry, you must meet the admission requirements for the program. If admitted, you must complete at least 60 units beyond the first degree including all program requirements.

NOTES

1. All work for the second degree must be completed at McMaster University.
2. A second degree is not available in all subject areas. You will not be admitted to a second degree program where there is substantial overlap in the requirements. See the individual Faculty/Program regulations or consult the Faculty/Program Offices for exclusions or further information.
3. Minors will not be revoked to permit later registration in a three- or five-level second degree in the same subject. Students may return to the second degree in the same subject and may complete at least 60 units beyond the first degree, including all Honours requirements specified for the program.
4. Extra courses taken while you are registered in a first degree program, or courses completed as a Continuing Student, may, with the approval of the Faculty, be applied to the second degree program.
5. You must meet the same standards for continuation and graduation as are applied to students registered in a first degree program.
6. Credit from the first two degrees cannot be applied to a third undergraduate degree. To obtain a third undergraduate degree you must take the complete program i.e. approximately 90 units for a three-level degree and approximately 120 units for a four-level degree.
Deans' Honour List
Each year outstanding students with a minimum average of 9.5 on at least 30 units (usually their Sessional Average) are named to the Deans' Honour List. Students will be assessed at the reviewing period (either after the Fall/Winter or Summer session) when a minimum of 30 units has been completed since the previous Deans' Honour List review. At each review the assessment will be based on all units completed since the previous Deans' Honour List review.

Provost's Honour Roll
Each year outstanding students with a 12.0 average on at least 30 units (usually their Sessional Average) are named to the Provost's Honour Roll. Students will always be assessed at the same time and using the same average calculation as applied to the Deans' Honour List assessment. (See Deans' Honour List section above.)

3. PETITIONS FOR RELIEF FOR MISSED TERM WORK AND FOR DEFERRED EXAMINATIONS

The University wishes to assist students with legitimate difficulties. It also has the responsibility to ensure that degree, program and course requirements are met in a manner that is equitable to all students. Students may petition the office of the Associate Dean of their Faculty (Faculty office) for special consideration when there are compelling medical, personal or family reasons to justify an exception to University regulations. Supporting documentation will be required but will not ensure approval of the petition. The authority to grant petitions lies with the Faculty office and is discretionary. It is imperative that students make every effort to meet the originally-scheduled course requirements and it is a student's responsibility to write examinations as scheduled.

Procedure 1: Petitions for Relief for Missed Term Work
1. A student may submit a Petition for Special Consideration through the Faculty office for relief from the academic consequences of missed term work based on compelling medical, personal or family reasons before or immediately after the work is missed, normally within five working days.
2. If the reason is medical, the approved McMaster University Medical Form must be used. The student must be seen by a doctor at the earliest possible date, normally on or before the date of the missed work and the doctor must verify the duration of the illness. Relief will not be available for minor illnesses.
3. If the reason is non-medical, appropriate documentation with verifiable origin covering the relevant dates must be submitted, normally within five working days.
4. Students should expect to have academic commitments Monday through Saturday but not on Sunday or statutory holidays. Students who require accommodations to meet a religious obligation or to celebrate an important religious holiday should make their requests as soon as possible after the start of term to their Faculty/program office.
5. In deciding whether or not to grant a petition, factors such as the following may be taken into account: the adequacy of the supporting documentation including the timing in relation to the due date of the missed work and the degree of the student's incapacitation.
6. After the third Petition for Special Consideration a student will be asked to meet with the Associate Dean (or delegate).
7. The University reserves the right to require students to obtain medical documentation from the Campus Health Centre.
8. It is the student's responsibility to check with the Faculty office for a decision on the petition.
9. If the petition is granted, the Faculty office will notify the instructor(s) recommending relief.
10. The student must contact the instructor promptly to discuss the appropriate relief.

Procedure 2: Petitions for Deferred Examinations
1. Once a student has completed an examination, no special consideration will be granted. A student who misses an examination or is unable to complete an examination may submit a Petition for Special Consideration requesting a deferral of the examination to the Faculty office, normally within five working days of the missed examination. The petition must be based on compelling medical, personal or family reasons.
2. See steps 1. - 6. in Petitions for Relief for Missed Term Work above.
3. It is the student's responsibility to check with the Faculty office for a decision on the petition for a deferred examination.
4. If the deferred examination is granted, the student will be informed officially by means of the notation DEF which will appear against the relevant course on the student's academic record (available on MUGSIS) and on the student's grade report.
5. Deferred examinations are written during the next official University deferred examination period. Default of the deferred examination will result in a failure for that examination except in the case of exceptional circumstances (see Petitions for Missed Deferred Examinations below).

Procedure 3: Petitions for Missed Deferred Examinations
1. A student who cannot write a deferred examination on the scheduled date may submit a Petition for Special Consideration to the Faculty office. The petition must be based on compelling medical, personal or family reasons.
2. A committee of Associate Deans or delegates will consider petitions from students registered in any undergraduate program. The steps in this procedure will be consistent with those used to consider a student's eligibility for a deferred examination.

Appeals of Petitions for Special Consideration (Procedures 1-3 above)
In accordance with the Student Appeal Procedures, decisions made on Petitions for Special Consideration are final and cannot be appealed except if a student feels their human rights have been violated, in which case there is an appeal to the Senate Board for Student Appeals.

4. EXAMINATIONS

The Office of the Registrar schedules and conducts most final examinations and December mid-year examinations for full-year Level I courses. See the Sessional Dates section in this Calendar. Examinations organized by the Office of the Registrar during these dates may be scheduled in the morning, afternoon, or evening, Monday through Saturday.

Other instructor-scheduled tests and examinations may be held throughout each session but may not be scheduled during the last five days of the terms of the Fall/Winter session, or between the last day of classes for the term and the first day of the examination schedule, except as approved by the Undergraduate Council. Assignments worth more than ten percent of a final course grade cannot be assigned during this ban period, and take-home examinations worth more than ten percent of a final course grade cannot be due during the ban period. Tests that are exempt from the ban must:

a) be a part of a process of continuous or periodic assessment through the term; and
b) be held in the normally scheduled class or lab slot; and

be worth no more than ten percent of the final course grade. See the Sessional Dates section of this Calendar.

Examinations Conducted by the Office of the Registrar

- McMaster student photo identification cards are required at all examinations. If you arrive at an examination without a proper I.D. card you will be required to have a substitute card made before being seated. There is a fee for this service. No additional time is given to compensate for examination time missed.
You may only use books, papers or instruments during an examination if they are specifically prescribed on the examination paper. No examination books or supplies are to be removed from the room.

No conversation or any form of communication between candidates is permitted in the examination room.

No cell phones, pagers or any communicating devices are permitted.

No food is permitted and drinks must be in a spill proof container.

The University is not responsible for lost or stolen articles.

Items (including back packs) that are not required to write the examination should not be brought into the examination as they must be left at the side of the room at your own risk.

Handbags or small personal belongings may be left beneath your chair but not on your desk.

You are expected to use the washroom before or after and not during an examination.

You are responsible for writing the correct examination from the right instructor at the place and time indicated on the examination timetable.

You may leave an examination only after the first 45 minutes have elapsed.

If you become ill during an examination, you may be excused by a presider.

If you miss or leave an examination for medical reasons you must submit a Petition for Special Consideration form with supporting documentation of illness, personal or family reasons, to the Office of the Associate Dean of your Faculty normally within five working days of the missed examination.

If you are late for an examination, report immediately to the presider in your examination location or to the Examinations Section of the Office of the Registrar.

If you miss or leave an examination for any other reason, report immediately to the Office of the Associate Dean of your Faculty. You will be advised whether you can write your examination before the end of the examination schedule, or whether you must apply for special consideration by submitting documentation to the Office of the Associate Dean of your Faculty.

Special examination arrangements may be made upon application to the Examinations Section of the Office of the Registrar in some circumstances, such as:

- a conflict with religious obligations
- a conflict between two Registrar-scheduled examinations
- a schedule with three examinations in one calendar day or three consecutive examinations
- December only - two consecutive examinations if the first examination is three hours long

Application must be made at least 10 working days before the scheduled examination date and acceptable documentation must be supplied. Failure to meet the stated deadline may result in the denial of special arrangements.

Students with disabilities are required to inform the Centre for Student Development of accommodation needs for examinations on or before the last date for withdrawal from a course without failure by default. (See the Sessional Dates section of this Calendar.) This allows sufficient time to verify and arrange appropriate accommodation. Failure to meet the stated deadline may result in the denial of special accommodation. See Academic Facilities, Student Services and Organizations—Centre for Student Development section of this Calendar.

Examinations are not rescheduled for purposes of travel. You must arrange to be available for the entire range of examination dates as listed in the Sessional Dates section.

Deferred Examinations

The decision to grant you a deferred examination will be reported on your grade report.

In the case of examinations written at an off-campus location, any fees incurred are the responsibility of the student. This includes the fee to courier the written examinations back to the Examinations Section of the Office of the Registrar.

5. GRADING SYSTEM

The method for determining your final grade will be given in the course outline. Unless otherwise specified in a course outline, course results determined on a percentage scale will be converted to an official letter grade, as indicated in the equivalent percentage scale which follows. The results of all courses attempted will appear on your transcript as letter grades.

Before submitting a failing grade, your instructor reassesses whatever examples of your work are available.

To satisfy prerequisite requirements, a grade of at least D- is required, unless otherwise stated.

You retain credit for all courses with grades of D- or better, except in those programs for which a higher grade is specified in the program regulations.

Example of a Weighted Average Calculation, using the grade points and units for courses completed:

\[
\begin{array}{cccc}
\text{Course} & \text{Grade Points} & \text{Course Units} \\
A- & 10 & x & 5 \\
C+ & 6 & x & 3 \\
B & 8 & x & 6 \\
B+ & 9 & x & 3 \\
\hline
\text{Total} & 18 & & 153 \\
\end{array}
\]

To calculate Average: 153 / 18 = 8.5

Since September 1982, the grading scale has been:

- A+ 12 90-100
- A 11 85-89
- A- 10 80-84
- B+ 9 77-79
- B 8 73-76
- B- 7 70-72
- C+ 6 67-69
- C 5 63-66
- C- 4 60-62
- D+ 3 57-59
- D 2 53-56
- D- 1 50-52
- F 0 0-49 — Failure

UNDERGRADUATE ACADEMIC AWARDS

The Fall/Winter Sessional Average will be used to determine your eligibility for these awards. Terms and conditions of awards for full-time and part-time studies are defined in the Undergraduate Academic Awards section.
7. GRADUATION

Graduation With Distinction standing may be awarded if a minimum CA of 9.5 is achieved in a degree program. The following Cumulative Averages are required to graduate:

- B.A. — 3.5
- B.A. (Honours) — 5.0
- B.A./B.S.W. and B.S.W. — 6.0
- B.Arts Sc. and B.Arts Sc. (Honours) — 5.0
- B.Com. — 4.0
- B.Com. (Honours) — 5.0
- B.H.Sc. — 5.0 (on all graded courses)
- B.H.Sc. (Honours) — 5.0
- B.Kin. (Honours) — 5.0
- B.Kin. Major — 4.0
- B.Mus. (Honours) — 5.0
- B.Sc. (Honours) — 5.0
- B.Sc.Kin.* (Honours) — 5.0
- B.Sc.N. — 3.5
- B.Tech. — 3.5
- * Degree designation subject to approval

Please see the graduation regulations for individual Health Sciences programs in the Faculty of Health Sciences section. If, at the time of graduation, you fail to meet the requirements for an Honours degree, you may seek to transfer to another program. If you are registered in Level III of an Honours program and wish to transfer to a three-level degree program to be eligible for graduation at the next Convocation, you must apply to the appropriate Office of the Associate Dean by April 15 for Spring Convocation and by September 1 for Fall Convocation. If permission is granted, you must complete a Graduation Information Card.

If you are scheduled to graduate from a three-level program and wish to be considered to transfer to Level IV of an Honours program rather than graduate, you must apply to the appropriate Office of the Associate Dean by April 15 for Spring Convocation and by September 1 for Fall Convocation. You will receive the decision on your eligibility to transfer on your grade report and if you are not eligible to transfer, you will graduate from your three-level program as scheduled. During the session in which you expect to complete your graduation requirements, you must complete a Graduation Information Card online at http://registrar.mcmaster.ca/internal/convocation/ by mid-February for Spring Convocation and by mid-July for Fall Convocation. Deadline dates appear in the Sessional Dates section of this Calendar.

If you wish to apply to receive a Minor in addition to your major program of studies, you must indicate this on your Graduation Information Card.

You must take the degree at the Convocation immediately following the completion of the appropriate degree work. Diplomas will not be released if you have an outstanding account with the University.

Diplomas held for students with an outstanding account or that have been returned in the mail will only be retained for a period of twelve months following the Convocation date. Students under the above circumstance requesting diplomas after this period will need to purchase a replacement diploma.

Duplicate and Replacement Parchments, Diplomas and Certificates

Graduates may request, with payment of the required fee, a duplicate or replacement degree parchment, diploma or certificate. A duplicate copy of the student's degree parchment, diploma or certificate will be issued when a student requires a second copy of the degree parchment, diploma or certificate. A degree parchment, diploma or certificate will be reissued (noting the date of reissue) when the original document has been lost, damaged or destroyed.

The words duplicate copy or reissued will be affixed to all degree parchments, diplomas or certificates requested in this manner. Degree parchments, diplomas or certificates will bear the signatures of the current Chancellor, President and Vice-Chancellor and Registrar.

8. RECORDS POLICY

Records

Transcripts

Transcripts, which summarize your academic career at McMaster University, are available from the Office of the Registrar.

Transcripts

Office of the Registrar
Room 108, Gilmour Hall
McMaster University L8S 4L8
Phone: (905) 525-4600
FAX: (905) 527-1105

NOTE: Academic sessions do not appear on transcripts until a registration has been academically and financially approved and the first day of classes in the session has passed.

Requests for transcripts may be made in person, by mail, or by fax. To protect the confidentiality of student records, all requests must be signed by the student whose transcript is being requested.

There is no charge for transcripts. However charges to have transcripts faxed or couriered from McMaster will be applied.

Current fees for faxes and courier services can be found on our web site at http://registrar.mcmaster.ca/internal/services/transrequest.htm. Fees are due at the time that transcripts are ordered. All mail or fax requests must include a credit card number with the expiry date, name and signature of card owner (Visa and MasterCard, only).

Requests are filled promptly on receipt of payment. Official transcripts are usually delivered to other Ontario universities by courier and elsewhere by Canada Post. To avoid disappointment, please allow at least five to seven days (up to 10 business days during the peak periods of January, June and September) for processing plus delivery time. Transcripts will not be issued if you have outstanding accounts at the University.

Retention Policy

When you apply for admission to McMaster University and register in programs at the University, you accept the University's right to collect pertinent personal information. The information is needed to assess your qualifications for entry, establish records of performance in programs and courses, provide the basis for awards and governmental funding, and to assist the University in the academic and financial administration of its affairs.

All documentation that you submit to the University in support of applications for admission, residence accommodation or financial awards, or any appeals or petitions, becomes the property of the University. You are notified of your academic performance in courses by grade reports provided by the Office of the Registrar. All information needed to produce official transcripts is maintained permanently.

If you are not accepted, or if you fail to enroll following acceptance, your documentation is normally destroyed at the end of each admissions cycle. If you reapply, you must resubmit any previous documentation and any additional academic information.

Supporting documentation relevant to your admission to, and performance at, the University will normally be eliminated seven years after the end of your enrolment at the University (regardless of whether you graduate).

Notification of Disclosure of Personal Information to Statistics Canada

Statistics Canada is the national statistical agency. As such, Statistics Canada carries out hundreds of surveys each year on a wide range of matters, including education.

In order to carry out such studies, Statistics Canada asks all colleges and universities to provide data on students and graduates. Institutions collect and provide to Statistics Canada student identification information (student's name, student ID number, Social Insurance Number), student contact information (address and telephone number), student demographic characteristics, enrolment information, previous education and labour force activity.
The Federal Statistics Act provides the legal authority for Statistics Canada to obtain access to personal information held by educational institutions. The information may be used only for statistical purposes, and the confidentiality provisions of the Statistics Act prevent the information being released in any way that would identify a student.

Students who do not wish to have their information used are able to ask Statistics Canada to remove their identification and contact information from the national database. For further information, please see Statistics Canada's web site at: http://www.statcan.ca or write to the Postsecondary Section, Centre for Education Statistics, 17th Floor, R.H. Coats Building, Tunney's Pasture, Ottawa, K1A 0T6.

Collection of Personal Information and the Protection of Privacy

McMaster University collects and retains personal information of students, alumni and other parties, including but not limited to, professors, staff, visiting academics and private citizens using services provided by McMaster University, under the authority of the McMaster University Act, (1976). This information is used for the academic, administrative, employment-related, financial and statistical purposes of the University, including for the administration of admissions, registration, awards and scholarships, convocation, alumni relations and other fundamental activities related to being a member of the University community, a user of services provided by McMaster or an attendee of, or applicant to, a public post-secondary institution in the Province of Ontario. The information will be used, among other things, to admit, register and graduate students, record academic achievement, issue library cards and, where applicable, local transit passes, to provide access to information systems and to operate academic, financial, athletic, recreational, residence, alumni and other University programs. Information on admissions, registration and academic achievement may also be disclosed and used for statistical and research purposes by the University, other post-secondary educational institutions and the federal and provincial governments. An individual's name, Faculty and program, award information, degree(s) awarded and date of graduation is considered public information and may be published by McMaster University. In addition, student photographs posted by the University in the form of individual pictures or class pictures may be publicly displayed. Aside from the foregoing, the information you provide and any other information placed in a student record, or in a personnel record, will be protected and used in compliance with Ontario's Freedom of Information and Protection of Privacy Act and will be disclosed only in accordance with this Act. If you have any questions about the collection and use of this information, please contact the University Registrar, University Hall, Room 205; McMaster University, Student Records, Gilmour Hall, Room 108; or the University Secretary, Gilmour Hall, Room 210, McMaster University.

McMaster University may also collect personal information from other relevant sources including, without limitation, the Ontario Universities' Application Centre, secondary schools, colleges, universities and other institutions previously attended, including third-party services and test score providers where the items collected form a part of the application or admission process to a university program.

In addition to collecting personal information for its own purposes, McMaster University collects specific and limited personal information on behalf of the McMaster Student Union, the McMaster Association of Part-time Students and/or the McMaster Graduate Students Association. These constituent student groups use personal information for the purpose of membership, administration, elections, annual general meetings, health plans and other related matters only. Please contact the relevant Student Union/Association office if you have questions about this collection, use and disclosure of your personal information and their respective privacy policies.
The University has defined its expectations of students in both the academic and non-academic life of the University community, and developed procedures to ensure that all members of the community receive equitable treatment. An electronic version of the following policies is available at the following address: http://www.mcmaster.ca/policy.

The policies consist of:

- Academic Integrity Policy
- Student Appeal Procedures
- Student Code of Conduct
- Alcohol Policy and Residence Community Alcohol Policy
- Sexual Harassment Policy
- Anti-Discrimination Policy
- Rights and Responsibilities of Undergraduate Students During Work Stoppages That Substantially Disrupt Academic Activities
- Welcome Week Regulations
- General Regulations for McMaster University Libraries
- Policy for Academic Accommodation of Students with Disabilities
- Senate Resolution on Course Outlines
- Policy on Undergraduate Student Access to Final Examinations
- Guidelines on Access to Information and Protection of Privacy (including Security of Student Data)
- Petition for Relief for Missed Term Work and for Deferred Examinations (See also Section 3 in the General Academic Regulations section of this Calendar.)

The following provides a summary of the major policies which pertain to students.

A number of these policies are under review and may be revised. Students are advised to check the Policies, Procedures and Guidelines (http://www.mcmaster.ca/policy) section of the University website for the most up-to-date information. Complete versions of the policies may also be obtained from the University Secretariat, Room 210, Gilmour Hall.

Academic Integrity and Academic Dishonesty

The Academic Integrity Policy explains the expectations the University has of its scholars. Some Departments and instructors have also developed more specific rules and regulations designed to maintain scholarly integrity. It is the responsibility of each instructor to make students aware of these expectations.

The main purpose of a university is to encourage and facilitate the pursuit of knowledge and scholarship. The attainment of this purpose requires the individual integrity of all members of the University community, including all graduate and undergraduate students. Scholars at McMaster demonstrate integrity in many ways, including the following:

- Scholars practice intellectual honesty in the process of acquiring and extending knowledge. They do this by improving scholarly competence, and by exercising critical thinking and self-discipline.
- Scholars show respect for and courtesy to others in free discussions on academic topics and recognize the right to free inquiry and opinion.
- Scholars adhere to ethical requirements in their research.
- Scholars acknowledge fully the work of others by providing appropriate references in papers, essays and the like and declaring the contributions of co-workers. Scholars do not take credit that is not earned.
- Scholars strive to ensure that others are not put at a disadvantage in their pursuit of knowledge. They do not withhold material that should rightly be available to others.

The University states unequivocally that it demands scholarly integrity from all its members. Academic dishonesty, in whatever form, is ultimately destructive of the values of the University; furthermore, it is unfair and discouraging to those students who pursue their studies honestly.

Academic dishonesty is not qualitatively different from other types of dishonesty. It consists of misrepresentation by deception or by other fraudulent means. In an academic setting, this may include any number of forms such as:

- copying or the use of unauthorized aids in tests, examinations, and laboratory reports,
- plagiarism, i.e., the submission of work that is not one's own or for which previous credit has been obtained, unless the proper credit is given,
- giving false information for the purposes of gaining admission or credit,
- giving false information for the purposes of obtaining deferred examinations or extension of deadlines, and
- forging or falsifying McMaster University documents.

For a complete definition and examples, please refer to the Academic Integrity Policy, Appendix 3.

Allegations of academic dishonesty will be handled according to the procedures described in the Academic Integrity Policy. Penalties may be imposed on students who have been found guilty of academic dishonesty. Examples of penalties include a mark of zero on an assignment, zero for the course with a transcript notation, and suspension or expulsion from the University, etc.

Student Appeal Procedures

The University has a responsibility to provide fair and equitable procedures for the lodging and hearing of student complaints arising from University regulations, policies, and actions that affect them directly. The procedures described in the Student Appeal Procedures are intended to provide a mechanism to remedy injustices and may culminate in a hearing before the Senate Board for Student Appeals.

However, students are strongly encouraged to pursue any complaint or grievance through informal channels, before following the formal procedures. Experience has shown that many complaints can be resolved satisfactorily through informal communication.

Students should seek remedies for their grievances as promptly as possible, and must do so within six months of the end of the academic year in which the grievance has occurred. The end of the academic year is August 31.

Decisions on admission or readmission to the University may not be appealed, except under the conditions described in the next paragraph. However, applicants may ask for a review of a decision on admission or readmission or on the granting of transfer credits. To initiate such a review, the applicant must write to the Registrar within one week of receiving the original decision and state the grounds for seeking the review.

Applicants who have been refused readmission to a degree program may appeal the decision, using the procedures described in the Student Appeal Procedures, if the following two conditions have been met:

1. the applicant withdrew voluntarily from the University, and
2. the applicant alleges error or injustice on grounds other than academic judgment.

Student Code of Conduct

McMaster University is a community dedicated to furthering learning, intellectual inquiry, and personal and professional development. Membership in the community implies acceptance of the principle of mutual respect for the rights of others and a readiness to support actively an environment conducive to intellectual growth, both for individuals and for the whole University. The Student Code of Conduct contains regulations which outline the limits of conduct considered to be consonant with the goals and the well-being of the University community, and defines the procedures to be followed in cases of violation of the accepted standards.
Alcohol Policy and Residence Community Alcohol Policy

The intention of the University Alcohol Policy is to promote attitudes towards alcohol use that are consistent with an atmosphere of civility, and to discourage alcohol-related behaviour on campus which is abusive to oneself or to others. Students are accountable for their own decisions regarding alcohol use; they are also responsible for knowing, understanding, and complying with applicable University policies and provincial laws related to alcohol.

The University Policy describes general and minimal requirements for the use of alcoholic beverages on campus. More specific guidelines concerning alcohol use are available from other offices on campus such as the Housing Office (for residence hall events), and the Vice-President (Administration) for other events including faculty/staff events.

Statement on Human Rights

McMaster University wishes to ensure the full and fair implementation of the principles of the Ontario Human Rights Code, which state:

Every person has the right to equal treatment with respect to services, goods and facilities, without discrimination because of race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, age, marital status, family status or handicap.

The University Senate has approved Policies on Sexual Harassment and on Anti-Discrimination which outline the procedure to be followed in the event that a student has a complaint regarding an alleged violation of human rights.

Sexual Harassment Policy

The University recognizes its legal and moral responsibility to protect all of its members from sexual harassment and to take action if such harassment does occur. To these ends it has developed a policy on, and procedures for, dealing with complaints of sexual harassment, including a range of disciplinary measures up to and including dismissal. Copies of the Policy and Procedures on Sexual Harassment may be obtained from the University Secretariat, Gilmour Hall, Room 210.

Anti-Discrimination Policy

McMaster University affirms the right of every member of its constituencies to live, study and work in an environment that is free from discrimination and harassment. Discrimination and harassment are incompatible with standards of professional ethics and with behaviour appropriate to an institution of higher learning.

The intention of this policy and its procedures is to prevent discrimination and harassment from taking place, and where necessary, to act upon complaints of such behaviour promptly, fairly, judiciously and with due regard to confidentiality for all parties concerned. Copies of the Anti-Discrimination Policy may be obtained from the University Secretariat, Gilmour Hall, Room 210.

Policy on Rights and Responsibilities of Undergraduate Students During Work Stoppages That Substantially Disrupt Academic Activities

The University recognizes that a work stoppage at the University that substantially disrupts academic activities may have a significant impact on the ability of students to carry out their studies. To this end, it has developed a policy that recognizes the need to treat students fairly and equitably and, at the same time, to protect the academic integrity of the University’s courses and programs.

Guidelines for Student Evaluation

Instructors for all courses except supervised study, thesis and independent research courses are required to return graded material equal to a minimum of 10% of the session's total mark prior to the final date by which a student must withdraw from a course without academic penalty.
FINANCIAL INFORMATION

Upon receiving official acceptance from the Registrar’s Office and upon submission of registration, you are responsible for the payment of all fees as defined in this Calendar.

Payment of academic fees does not imply your acceptance to the University or approval of your registration. Academic requirements have to be fulfilled before your registration is completed.

If you are a new student, you may not forward academic fees to Financial Services until you have received your Letter of Acceptance.

You should not send residence fees unless you have received notification of acceptance.

You are responsible for the fees for each academic session. No fee credits can be transferred from one academic session to another.

It is the policy of the University not to accept registrations until all previous accounts are paid in full. Any payments received are, therefore, first applied to previous debts and any balances to the most recent debts.

The following fees and regulations were in effect at the time of publication of this Calendar. The University reserves the right to amend the fees and regulations at any time.

UNDERGRADUATE FEES

If you are a full-time student, fees cover your portion of the tuition cost, registration, library, campus health services, student organizations, and athletics, and are payable by all students.

No caution deposits are required, but students will be assessed for any unwarranted loss or breakage.

The University reserves the right to assess other supplementary fees or charges in some courses or programs to recover—in part or in full—the cost of providing course materials, accommodation and transportation for field trips, and the costs of breakages.

Fees charged by the University are approved annually by the Board of Governors for the academic year beginning September 1.


Tuition fees include a base per unit fee plus mandatory non-tuition related supplementary fees.

<table>
<thead>
<tr>
<th>Base Per Unit Tuition Per Faculty</th>
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<tbody>
<tr>
<td>Faculty/Program</td>
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<tr>
<td>Arts &amp; Science Level 1</td>
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<tr>
<td>Arts &amp; Science Levels 2, 3, 4</td>
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<tr>
<td>Business Level 1</td>
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<td>Commerce Levels 2, 3, 4</td>
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<td>Engineering Level 1</td>
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<td>Engineering Levels 2, 3, 4</td>
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<td>Eng. Mgt. II, IV</td>
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<td>Eng. Mgt. III, V</td>
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<td>Health Sciences (Honours) Level 1</td>
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<td>Health Sciences (Honours) Levels 2, 3, 4</td>
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<td>Kinesiology and Social Sciences Level 1</td>
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<td>Kinesiology and Social Sciences Levels 2, 3, 4</td>
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<td>Medical Radiation Sciences Level 1</td>
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<td>Medical Radiation Sciences Levels 2, 3, 4</td>
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<td>Nursing Level 1</td>
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<tr>
<td>Science Level 1</td>
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<td>Science Levels 2, 3, 4</td>
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Supplementary Fees

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<tr>
<th>STUDENTS TAKING 1 to 17 UNITS PAY (PER UNIT):</th>
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<tr>
<td>Athletics and Recreation Activity Fee</td>
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<td>Administrative Services Fee</td>
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<tr>
<th>McMaster Association of Part-Time Students Fees:</th>
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<tr>
<td>Organization Fee</td>
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Total Charge per unit $10.39

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<th>STUDENTS TAKING 18 UNITS or MORE PAY:</th>
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<tbody>
<tr>
<td>Students registered in 18 or more units at ANY time during the session will be responsible for the following fees.</td>
</tr>
<tr>
<td>Athletics &amp; Recreation Activity Fee</td>
</tr>
<tr>
<td>Student Health Service</td>
</tr>
</tbody>
</table>

Ontario Public Interest Research Group (OPIRG) 6.64

NOTE: If you do not wish to support the work of McMaster OPIRG you can claim a full refund by bringing your student card to the OPIRG Office within three weeks after the completion of the drop and add period.

McMaster Student Union Fees:

<table>
<thead>
<tr>
<th>Fees as Follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Organization Fee</td>
</tr>
<tr>
<td>Health Plan Premium*</td>
</tr>
<tr>
<td>Dental Plan Premium*</td>
</tr>
<tr>
<td>H.S.R. Bus Pass</td>
</tr>
<tr>
<td>WUSC Student Refugee Fee</td>
</tr>
<tr>
<td>Ancillary Fee for CFMU-FM</td>
</tr>
<tr>
<td>Ancillary Fee for MARMOR Yearbook</td>
</tr>
<tr>
<td>Incite Publication</td>
</tr>
</tbody>
</table>

Sub Total $495.54

*NOTE: Students who can prove comparable coverage may opt out of the McMaster Students Union Health Plan and Dental Plan Premiums. For deadline dates and detailed information, students should consult the MSU Insurance Plans web site at http://www.msu.mcmaster.ca/health.

And Faculty Specific Society/Support Fees as follows:

| Arts & Science | 28.00 |
| Bachelor of Health Sciences (Honours) | 25.00 |
| Commerce | 184.53 |
| Engineering | 132.00 |
| Humanities | 15.62 |
| Kinesiology | 50.00 |
| Medical Radiation Science Collaborative Fee | 81.76 |
| Nursing | 206.34 |
| Social Sciences | 35.00 |
| Social Sciences | 50.33 |

Canadian Citizens and Landed Immigrant Students

(Examples of fees for full academic load.)

<table>
<thead>
<tr>
<th>Supplementary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuition Fee</td>
</tr>
<tr>
<td>Fees</td>
</tr>
<tr>
<td>Total Fees</td>
</tr>
</tbody>
</table>

| Arts & Science Level 1 | 4,298.40 |
| Arts & Science Levels 2, 3, 4 | 4,888.50 |
| Business Level 1 | 5,870.30 |
| Commerce | 5,143.20 |
| Engineering Level 1 | 6,077.64 |
| Engineering Levels 2, 3, 4 | 7,585.91 |
| and Eng. Mgt. III, V | 934.44 |
| Eng. Mgt. II, IV | 6,735.18 |

Total $12,911.44

FINANCIAL INFORMATION 31
April Science fee. Co-op students attending one academic term should pay half the 30 unit Science fee plus a $500.00 Co-op Fee. 

For details on the McMaster Students Union Health Plan and Dental Plan, please consult the MSU Insurance Plans website at http://www.msu.mcmaster.ca/health. 

NOTE: Students who can prove comparable coverage may opt out of the McMaster Students Union Health Plan and Dental Plan Premiums. For deadline dates and detailed information, students should consult the MSU Insurance Plans website at http://www.msu.mcmaster.ca/health. 

**RESIDENCE AND MEAL PLAN FEES**

**Regular Session**

If you live on campus, your residence fees cover the period, from Labour Day weekend to 5 p.m. on the day following your final April examination, and excludes the December holiday break. The fees below are those for 2006-2007.

**RESIDENCES**

Traditional Residences

- Bunk and Loft Triple Room: $3,460.00, $2,046.05
- Quad Room: $3,565.00, $2,283.00
- Double/Triple Room: $4,135.00, $2,368.00
- Double Room with Washroom: $4,390.00, $2,496.00
- Single Room: $4,535.00, $2,588.00
- Single Room with Washroom: $4,835.00, $2,718.00

Apartment Style Residences

- Bates Apartment Room: $5,215.00, $2,908.00
- Mary E. Keyes Suite Room: $5,475.00, $3,038.00

**MEAL PLANS**

The Residence Meal Plan is an integral component of living in any of the McMaster University residences and all students living in residence must purchase a mandatory meal plan.

If living in a traditional residence you must purchase a meal plan from Group A. Students living in Bates and the Mary E. Keyes Residence must purchase a meal plan from either Group A or Group B.

The fees below are those for 2006-2007.

**Group A Full Meal Plan**

(Available to all residence students)

- Light: $2,300.00, $1,150.00
- Small: $2,550.00, $1,275.00
- Regular: $2,750.00, $1,375.00
- Large: $2,950.00, $1,475.00
- X-Large: $3,150.00, $1,575.00

**Group B Reduced Meal Plan**

(Available to Bates and Mary E. Keyes Residence students only)

- Light: $1,850.00, $825.00
- Small: $1,900.00, $900.00
- Regular: $2,100.00, $1,050.00
- Large: $2,300.00, $1,150.00
- X-Large: $2,500.00, $1,250.00

**Visa Students**

(Examples of fees for full academic load.)

<table>
<thead>
<tr>
<th>Tuition Fee</th>
<th>Supplementary Fee</th>
<th>Total Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
<td>12,948.00</td>
<td>830.44</td>
</tr>
<tr>
<td>Business and Commerce</td>
<td>13,446.00</td>
<td>866.97</td>
</tr>
<tr>
<td>Engineering and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eng, Mgt, III, V</td>
<td>17,805.15</td>
<td>934.44</td>
</tr>
<tr>
<td>Eng, Mgt, II, IV</td>
<td>17,577.50</td>
<td>919.20</td>
</tr>
<tr>
<td>Health Sciences (Honours)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sciences</td>
<td>13,050.00</td>
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<td>1,008.78</td>
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</tr>
<tr>
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</tr>
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</table>

* You will be assessed extra fees for units taken over your program maximum load.

**Student Health Services Fees**

The supplementary student health services fee of $50.35 supplements the on-campus clinic facilities, which provide the services of doctors and nurses. The McMaster Students Union Health Plan Premium fee of $45.00 includes reimbursement of expenses resulting from an accident incurred during the academic year, where such expenses are not recoverable under the Ontario Health Insurance Plan. The McMaster Students Union Dental Plan Premium fee of $90.00 provides a dental plan for all full-time undergraduates students enrolled in 18 units or more.

For details concerning coverage, contact the McMaster Students Union Office at ext. 21000 or visit their website at http://www.msu.mcmaster.ca/health.

NOTE: Students who can prove comparable coverage may opt out of the McMaster Students Union Health Plan and Dental Plan Premiums. For deadline dates and detailed information, students should consult the MSU Insurance Plans website at http://www.msu.mcmaster.ca/health.

**Co-op Fees**

Co-op students attending the full academic term (September-April) should add a $1,000.00 Co-op Fee to the regular 30 unit Science fee. Co-op students attending one academic term should pay half the 30 unit Science fee plus a $500.00 Co-op Fee.

**Listeners**

You may register as a Listener in some degree and certificate/diploma courses. A Listener simply audits the course and does not receive a grade. Listener status is not available in limited enrolment classes. The Listener fee is one-half of the standard tuition fee. For any degree course, written permission to attend must be obtained from the course instructor before registration is finalized by the Centre for Continuing Education. Listeners withdrawing from a course may do so without penalty up to five working days before the session. After that and before the second class, an administrative fee of $50.00 applies. There is no refund after the second class.

This category excludes currently registered students, who may audit a course. See General Academic Regulations section in this Calendar for details.

**Persons Aged 65+**

Subject to meeting admission and prerequisite requirements, if you will be aged 65 or over during the academic session for which you are registering, you may register without payment of tuition and supplementary fees.

**Tuition Fees Total**

<table>
<thead>
<tr>
<th>Program</th>
<th>Full Payment</th>
<th>Installment Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts &amp; Science</td>
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For more information on meal plans visit our web page at http://hospitality.mcmaster.ca or contact Mac Express, Commons Building, Room 128, telephone (905) 525 9140, ext. 27448, email express@mcmaster.ca

For information regarding applying to residence visit the Housing web page at http://housing.mcmaster.ca or contact Residence Admissions, Commons Building, Room 101, telephone (905) 525 8140, ext. 24342, email resnote@mcmaster.ca.

Summer Residence
McMaster University offers residence accommodation for summer students and casual guests from early May to late August each year. For further information, contact Conference Services, McKay Residence, Room 124, telephone (905) 525-9140, ext. 24781.

PAYMENT OF FEES
Tuition fees and residence/meal plan fees are payable in full during the registration period in August/September. McMaster University is committed to providing maximum flexibility to meet the financial needs of as many students as possible. McMaster University offers a wide variety of:
- Funding Options
- Payment Plans
- Payment Methods

Our web site at http://www.mcmaster.ca/bms/finance/student contains valuable information about your fees, various payment options and important deadline dates. You will find a SOLAR Registration Video which walks you through the online registration process. We also include step-by-step instructions for getting financial approval.

Students selecting a payment option that does not cover full fees, will be charged interest at the current rate of 1.2% compounded, 15.32% annually at the end of each month on the outstanding balance.

Cheques can be made payable to McMaster University. Any cheque not accepted and returned by the bank will be subject to an additional administrative charge of $35.00 for the first occurrence and an additional $10.00 for each subsequent occurrence.

In addition, if you refuse to pay fees, or any part of the fees, you may be refused admission to the University or you may be requested to withdraw with all privileges suspended. Fees to the date of withdrawal will be assessed. If you wish to re-register within the same academic session, you will also be assessed a $100.00 reinstatement fee.

You are not considered to be registered at McMaster University unless all fees are paid or acceptable arrangements have been made with the Financial Services Office by November 1 of each year. The names of students who are not registered by that date will be removed from all official class lists and their record of courses will be deleted from the system.

You will not be eligible for any examination results, transcripts, diplomas or the payment of awards of any kind, until fees and any other accounts owed to the University are paid, or until acceptable arrangements are made.

NOTE: Graduands who have outstanding accounts with the University will be permitted to attend convocation, but will not receive their diplomas until their accounts have been cleared in full.

Refunds
If you are forced, by illness or other personal reasons, to withdraw from courses, you will be charged a partial fee for courses that are cancelled. The charge is determined by the date on which notices of withdrawal in writing are received at the Office of the Dean of the appropriate Faculty. A full refund will be given for courses dropped until the end of the drop and add period.

MISCELLANEOUS FEES
The following fees were in effect for the 2005-2006 academic year, and are over and above assessed academic fees, supplementary fees, and residence fees and meal plan fees.

Academic User Fees
- Applications for re-admission: 50.00
- Applications to Part-Time Studies: 50.00
- Certification of Enrolment Fee: No fee
- Contribution to Psycho-Educational Assessment: 200.00
- Deferred Examination on campus*: No fee
- Examination Rereread (Refunded if grade is changed): 50.00
- Letter of Permission: No fee
- Notarizing Fee (plus $0.50 per page over 10 pages): No fee
- Photocopying of Examination Script: 10.00
- Replacement of Diploma: 50.00
- Replacement of Student I.D. Card: 30.00
- Replacement of Student I.D. Card/computer proximity chip: 40.00
- Transcript (per copy): No fee
- Transcript Evaluation: 60.00
- Students writing deferred examinations at another centre are responsible for payment of fees which may be assessed by the other examination centre.

Financial/Administrative User Fees
- Certificate Replacement Fee: 20.00
- Income Tax Receipt/Education Credit Certificate: No fee
- Certification of Fee Payment: No fee
- Meal Plan Withdrawal Fee: 50.00
- Fine for Meal Card Misuse: 25.00
- Returned Cheque Charge: 35.00
- Returned Check Charge (NSF, Stopped Payment):
- Each Occurrence: 35.00
- Each Subsequent Occurrence (Additional): 35.00
- Late Payment Fee: 35.00
- Late Payment Agreement Fee: 35.00
- Payment Agreements Default Fee: 35.00
- Deferment Fee: 35.00
- Monthly Payment Plan Application Fee: 35.00
- Reinstatement Fee: 100.00
- Locker Rental Small: 20.00
- Locker Rental Wide: 25.00
- Library Charges:
- Overdue Recalled Books (per day): 2.00
- Overdue Reserve Material (per hour): 2.00
- Replacement Cost, plus Fine: up to 100.00
- Returned Books After Billing: 10.00

EXPENSES
Costs Other Than Fees
For Students in Clinical Courses
You must buy uniforms, shoes and uniform accessories, for clinical practice.
If you are a Nursing student, your uniform and accessories are ordered under the direction of the School of Nursing. The approximate cost is $100.00. Level I Nursing students are also required to purchase a stethoscope at approximately $100.00.

Registration Examinations
Graduates of the B.Sc.N. program can expect to pay fees (approximately $337.05 in 2006) to write the comprehensive registration examinations administered by the College of Nurses of Ontario.

Insurance of Personal Property on University Premises
The University cannot assume any responsibility for the personal property of any employees, faculty members, or students, nor does the University carry any insurance that would cover their personal property.

In most cases, personal fire insurance policies provide an automatic 10% extension covering property away from home. You should inspect your insurance policies to be certain that this is the case.

Death and Dismemberment Insurance
The University considers that the purchase of insurance coverage for death and dismemberment is the individual responsibility of its students.

There are various insurance plans available, and although the University does not specifically endorse any one of these plans, it has no objection to explanatory brochures and literature being posted on bulletin boards or distributed in appropriate places.

If you are involved in laboratory or field work, you are particularly encouraged to investigate such coverage.

For information on student awards and financial aid, please refer to Undergraduate Academic Awards and Student Financial Aid sections of this Calendar.
The Arts & Science Program has been designed for students who wish to use their university years to further their intellectual growth through study of significant achievements in both arts and sciences and in practice of methods of inquiry. The program also allows for substantial specialization in a discipline or area through the use of electives. The philosophy of the Arts & Science Program can be expressed by quoting A.N. Whitehead:

"What education has to impart is an intimate sense for the power of ideas, for the beauty of ideas, and for the structure of ideas, together with a particular body of knowledge which has peculiar reference to the life of the being possessing it."

— The Aims of Education and Other Essays, 1929

The core curriculum consists of courses offered by the Council of Instructors of the Arts & Science Program, together with other courses offered by Departments. The core curriculum is designed to meet three major objectives:

1. to increase understanding of achievements and methods used in selected arts and science disciplines;
2. to increase skills in writing, speaking, and in critical and quantitative reasoning; and
3. to increase skills in the art of scholarly inquiry into issues of public concern.

Meeting the last of these objectives is the aim of inquiry seminars which begin in Level I and continue in upper levels. To investigate with skill and insight a complex public issue, such as world population growth in relation to food supply, requires an understanding of the methods and findings of many disciplines; it calls on a liberal education. Moreover, acquiring skill in such investigations requires practice in formulating questions, searching out evidence, and bringing the insights of academic disciplines to bear on the interpretation of evidence.

The Program offers preparation for advanced study in many professional schools, including those of business, health administration, journalism, law, medicine and teaching; and for research in many disciplines and interdisciplinary areas.

Students in this program who wish to prepare for graduate study in an academic discipline should consult with the appropriate Department concerning requirements. In general, preparation for graduate study may be accomplished by combining the core Honours Arts & Science curriculum with a concentration of electives in the intended area of graduate study. Combined Honours programs, which are available in many subjects (see below), combine the core curriculum of the Arts & Science Program with a prescribed set of courses in a subject and can be expected to satisfy course requirements for admission to graduate study in the particular subject.

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY
You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES
All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that the program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGS/SOLAR is available to them.

The Arts & Science Program is governed by the General Academic Regulations of the University (see the General Academic Regulations section in this Calendar) and the regulations described below.

The Program begins in Level I and leads to the degree, Bachelor of Arts & Science (Honours) on completion of Level IV. The four-level program provides an opportunity for specialization through electives and through an individual study or thesis course. Students who decide to conclude their studies in the program on completion of Level III may qualify to graduate with the degree, Bachelor of Arts & Science (B Arts Sc.).

Students must have a CA of at least 6.0 to continue in the program. In the case of some Combined Honours programs, the average must include specified courses.

Registration in Level II of the Arts & Science Program is limited to approximately 60 students.

INQUIRY SEMINAR REQUIREMENTS
Inquiry seminars comprise ARTS&SCI 1C06 and a set of upper-level inquiry seminars on a variety of topics that change from time to time. The upper-level inquiry seminars are designated as 3C at the beginning of the course code (3CE6, 3CF3, 3CG3, etc.) and are described in the program listing as upper-level Inquiry. See the course listing for topic designations. ARTS&SCI 1C06 must be completed in Level I. One upper-level Inquiry seminar is required and is normally taken in Level II or III.

COMBINED HONOURS
Students in the Arts & Science Program may undertake Combined Honours programs in many disciplines within the Faculties of Humanities, Science and Social Sciences. The combined program with Biology needs five years for completion. Combined programs that are already established are listed below. Students should consult the Director of the Arts & Science Program for consideration of other possible combinations. Application for Admission to Level II (March) is required for all Combined Honours Programs.

Individual Study/Thesis: Students in the B Arts Sc. (Honours) Program are required to complete either Individual Study or Thesis (ARTS&SCI 4A06 or 4C06). For students in some Combined Honours programs, this requirement must be met by a Departmental course.

For further information, please see Academic Standing and Program Requirements in the General Academic Regulations section in this Calendar.

INTERNATIONAL/CANADIAN EXCHANGE PROGRAMS
One calendar year before study abroad: Interested students should consult the Director, Arts & Science Program.

Calendar year of planned travel: No later than the end of December, students must propose a program of study for approval by the Director. Credit will be confirmed only after transcripts are received and academic achievements are reviewed on the student's return.

To be eligible for study abroad students must have completed 60 units with a CA of at least 7.0. The B Arts Sc. (three-year) degree is not granted on the basis of international study; the 30 final units of work must be done at McMaster.

Information concerning student exchanges can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Centre for Student Development, International Student Services. Inquiries can be directed to the office at:

CENTRE FOR STUDENT DEVELOPMENT
INTERNATIONAL STUDENT SERVICES
GILMOUR HALL, ROOM 104
TELEPHONE: (905) 525-9140, EXTENSION 24748
ARTS & SCIENCE PROGRAM

B.Arts Sc. (Honours) (2027)

Notes
1. Six units of upper-level Inquiry beyond Level I are required.
2. An additional six units of upper-level Inquiry may be included as an Elective with permission of the Director.

COURSE LIST
ARTS&SCI 1E03; BIOLOGY 1A03,1AA3; CHEM 1A03,1AA3; ENVIR SC 1A03, 1B03, 1G03

REQUIREMENTS
LEVEL I: 30 UNITS
24 units ARTS&SCI 1A06, 1B06, 1C06, 1D06
6 units Electives or Course List (requirement must be completed by the end of Level II)
1 course SCIENCE 1A00

LEVEL II: 30 UNITS
18 units ARTS&SCI 2A06, 2D06, 2R06
6 units Electives or Upper-level Inquiry (Inquiry may be taken in Level III)
6 units Electives or Course List (if not completed in Level I)

LEVEL III: 30 UNITS
6 units ARTS&SCI 3B03, 3BB3
6 units from ARTS&SCI 3A06, 3L03, 3S03
6 units Electives, or Upper-level Inquiry (if not already completed)
12 units Electives

LEVEL IV: 30 UNITS
6 units from ARTS&SCI 3A06, 3L03, 3S03 (whichever not completed in Level III)
6-12 units from ARTS&SCI 4A06, 4A12, 4C06, 4C12, 4EE6
12-18 units Electives

ARTS & SCIENCE AND ANOTHER SUBJECT

Established Combined Honours programs are listed below. Students are encouraged to consult the Director of the Arts & Science Program by September of Level II for consideration of other possible combinations. Application for Admission to Level II (mid-March) is required for all Combined Honours Programs. Combined Honours Program descriptions are available on the web (http://www.mcmaster.ca/artsci) or from the Program Office.

Combined Honours Programs, Arts & Science and:

Anthropology (2027010)
Art History (2027029)
Biochemistry (2027040)
Biology (2027050)
Biology (Biodiversity Specialization) (2027812)
Chemistry (2027070)
Classics (2027130)
Comparative Literature (2027142)
Computer Science (2027145)
Economics-Option A (2027151)
Economics-Option B (2027152)
English (2027200)
Environmental Science (2027211)
French - Program A (2027230)
French - Program B (2027231)
Geography (2027240)
Gerontology (2027265)
Health Studies (2027273)
History (2027280)
Linguistics (2027312)
Mathematics (2027320)
Multimedia (2027294)
Origins Specialization (2027412)
Peace Studies (2027417)
Philosophy (2027420)
Physics (2027440)
Political Science (2027450)
Psychology (2027460)
Religious Studies (2027475)
Sociology (2027520)
Theatre & Film Studies (2027551)
Women's Studies (2027842)
**INTERNATIONAL/CROSS-CULTURAL/LANGUAGE MENU**

In its revised programs, the School of Business is stressing the importance of breadth of knowledge. Students are required to take courses in a variety of business disciplines, thus giving them a sound understanding of business functions and their relationships. They also obtain exposure to international and cross-cultural issues. This will provide them with the knowledge needed for the world of global organizations. Prior to graduation, students are required to successfully complete two courses from an International/Cross-Cultural/Language menu. **NOTE:** Students who participate in an official McMaster University exchange are required to successfully complete one course from an International/Cross-Cultural/Language menu prior to graduation. Students must satisfy the normal prerequisites for the courses listed on the menu. Students follow the menu requirements of the Calendar in force when they enter Business I, however, when a later Calendar expands the menu options, students may choose from those additional courses as well. The menu for 2007-2008 is as follows:

- All Anthropology courses except ANTHROP 1A03 if completed as part of the Business I requirements.
- All courses in the Faculty of Humanities open to Commerce students, with the exception of all Multimedia courses, PHILOS 2N03 and English courses other than those listed below.
- All Indigenous Studies courses.
- All Political Science courses, except POL SCI 1G06, 3F03, 3FF3, 3J03, 3S03, 4006.
- All Religious Studies courses.

**THE COMMERCE PROGRAMS**

In Level I, a student who wishes to pursue either of the Commerce programs establishes a foundation in behavioural science, computer science, economics and mathematics, and also undertakes elective work. While this course of study is prescribed in Business I, a student who establishes a similar background in the Level I program of another Faculty may be considered for admission to Level II (Commerce II). Such a student should consult with the Academic Programs Office in the School of Business.

A student must gain admission to Commerce II in order to proceed towards the Honours B.Com. or B.Com. degrees. In Level II a wide range of business subjects including accounting, finance, marketing, human resources, and management information systems are introduced and further course work in economics is required. Elective work is taken from off-Commerce courses.

While the same core of required Commerce courses is completed in Level II, the Commerce programs diverge at Level III. In the Honours Commerce program, about two-thirds of the work is in Commerce courses, with the remainder of the load coming from electives outside the Faculty. In the Commerce program the work is approximately evenly divided between Commerce and non-Commerce courses.

*These courses are available as ACC 300, ACC 400, ACC 500, through the School of Business, subject to sufficient enrolments and availability of qualified instructors.

Other than those graduates specified above, Commerce courses are not open to Continuing Students.
SECOND UNDERGRADUATE DEGREE
A student with an undergraduate degree will not be admitted or readmitted to either of the Commerce programs. Such a student may wish to apply for admission to the M.B.A. program.

CREDIT TOWARDS PROFESSIONAL DESIGNATIONS
Educational requirements toward a variety of professional designations can be met in various disciplines within the Commerce programs and the Engineering and Management programs. The professional accounting designations C.A., C.M.A. and C.G.A. are awarded by the Institute of Chartered Accountants of Ontario, the Society of Management Accountants of Ontario and the Certified General Accountants Association of Ontario, respectively, while the designation C.H.R.P. is awarded by the Human Resources Professionals Association of Ontario.

Further opportunities for meeting educational requirements for professional designations are available to students in all Commerce and Engineering and Management programs. Additional course work may be taken while in the program. Further units of credit may also be taken after graduation (see Continuing Students above). Information concerning credit towards these professional designations can be obtained from the Academic Programs Office in the School of Business.

MINOR
A Minor is an option available to a student enrolled in a four- or five-level program. A Minor consists of at least 18 units of Level II, III or IV courses beyond the designated Level I course(s) that meet the requirements set out in the program description of that Minor. A student is responsible for ensuring that the courses taken fulfill these requirements. Those who have completed the necessary courses may apply for recognition of that Minor when they graduate. If recognition is granted for a Minor, a notation to that effect will be recorded on the student’s transcript. For further information, please refer to Minors in the General Academic Regulations section of this Calendar.

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY
You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES
All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGIS/SOLAR is available to them.

A student enrolled in either of the Commerce programs, in addition to meeting the General Academic Regulations of the University, shall be subject to the following School of Business Regulations.

QUALIFYING FOR HONOURS COMMERCE
To be considered for entry to Level III of the Honours Commerce program, students must have attempted at least 24 units of course work for Level II Commerce (as described in this section of the Calendar) with a C.A. of at least 6.0 and no more than six units of failures (in required and/or elective course work) after entry to Level II Commerce.

If a student did not qualify for the Honours Commerce program upon entry to Level III, there is one final opportunity for consideration. To be considered for Level IV of the Honours Commerce program, students must have attempted at least 24 units of course work for Level III Commerce (as described in this section of the Calendar) with a C.A. of at least 6.0 and no more than six units of failures (in required and/or elective course work) after entry to Level II Commerce.

CHANGE OF PROGRAM
A student may transfer between Commerce programs prior to entering Level IV, provided that, after consultation with the Academic Programs Office of the School of Business, it has been determined that the academic requirements of the new program have been met, and an acceptable revised program of study can be established. This revised program of study must be approved by the Academic Programs Office.

Students in good standing in the Engineering and Management program may transfer to a Commerce program with the permission of the Academic Programs Office. The conditions for eligibility for entrance to the Commerce programs are the same as for students registered in the School of Business.

WORKLOAD
In Business I, a full-time student must complete a 30-unit load in each Fall/Winter session. Advance credit and credit earned during the Spring/Summer session may not be used to reduce this load requirement. Such reductions will be applied as late as possible in a student’s program. A part-time student in Business I is permitted to take a maximum of 15 units in any Fall/Winter session.

Students who wish to take more courses than recommended for a single Level of their program may do so only if their Sessional Average on completion of the previous Fall/Winter session is at least 7.0. Students registered in the final Level of their program are permitted to overload by up to six additional units in order to become eligible to graduate.

DEFERRED EXAMINATIONS
See the heading Deferred Examinations under Examinations in the General Academic Regulations section of the Calendar for application procedures.

Students who are in a precarious position with respect to achieving the minimum C.A. or otherwise meeting the Commerce program requirements for continuation in the program will not necessarily be permitted to undertake further work before clearing deferred examinations.

REPEATED COURSES
Any failed course must be repeated if it is a required course for the program, or must be repeated or replaced if it is not required. The grades for both the failed course and its repetition or replacement, as appropriate, will be included in the calculation of a student’s C.A. Voluntary repetitions of non-Commerce courses in which passing grades have been previously attained are designated as Extra courses. (See the Glossary section of this Calendar.)

LEVEL I COURSES
Students are not permitted to take more than 48 units of Level I courses in their program.

LEVEL OF REGISTRATION
A student is required to register in the lowest level for which more than six units of work is incomplete. Work of the next higher level may be undertaken only when necessary to fill a program load. Courses must be taken in the sequence specified by the School of Business.

READMISSION
A student in Level II, III or IV of a Commerce program, who becomes ineligible to continue in the School of Business, may apply for readmission to the Commerce program in a subsequent calendar year up to a maximum of five years following the year in which the student becomes ineligible to continue. Readmission is not guaranteed.

Application for readmission must be made in writing to the Undergraduate Admissions Policy and Reviewing Committee by June 30 for entry in September. This application should explain why the applicant would expect to succeed in the program if readmitted. Forms for this purpose may be obtained from the Academic Programs Office in the DeGroote School of Business. Room 3034.

A student who is otherwise ineligible to continue in a Commerce program must repeat all the courses of the level at which he/she became ineligible to continue unless specific course exemptions or credits are granted. The earliest possible session for readmission is the session starting in September of the year following the year in which the student became ineligible to continue.

Former Commerce students who have not been registered in a Commerce program within the past five years, including those who were in good standing at the time of their most recent registration, must apply for readmission through the Office of the Registrar.
There are two categories of students who may apply for reinstatement:
1. Applicants who have been registered in Business I within the past five years, and have not been registered in another McMaster program or at another University during that time, or
2. Applicants from other Faculties.

Students seeking reinstatement must complete the Reinstatement Request Form available at the Office of the Registrar. The completed form and the $50 fee must be submitted to the Office of the Registrar by June 30 for entry in September.

The form must clearly demonstrate extraordinary circumstances which caused inadequate performance and indicate whether the circumstances surrounding their academic situation have been resolved. They should also include relevant documentary evidence, for example, a letter from a physician outlining any medical condition that might have affected the student's academic performance or final grade. Reinstatement cases will be carefully screened and the evidence considered will include the student's academic performance before and after admission to McMaster, as well as the nature and reasons cited in the application letter and the accompanying documentation. Such exceptional cases will be considered on their merit. Reinstatement is not guaranteed.

Upon reinstatement, the Cumulative Average for a student is reset to 0.0 on zero units. If at any review after reinstatement the student's Cumulative Average falls below 3.5, the student will be required to withdraw from the degree program within the first four months of the period of at least 12 months.

FORMER COMMERCE STUDENTS

If a student was previously registered in a McMaster Commerce program and was in good standing but did not attend in the preceding year, the student must write to the Academic Programs Office to seek readmission. The letter should describe the student's activities (academic and otherwise) since he/she was last registered.

If five years have passed since the student was last registered at McMaster, he/she should consult the heading Readmission in the Admission Requirements section of this Calendar.

Graduates of McMaster's Commerce or Engineering and Management programs should refer to Continuing Students above.

INQUIRIES RE: ACADEMIC REGULATIONS

A student seeking relief from the School of Business regulations must apply in writing to the Undergraduate Admissions Policy and Reviewing Committee with appropriate documentation attached. Guidelines for such requests may be obtained from the Academic Programs Office in the DeGroote School of Business, Room 104.

COMMERCE INTERNSHIP PROGRAM

This is a program designed to provide students with an opportunity to participate in career oriented work terms. Positions begin after the successful completion of Level III and may continue for periods of eight, twelve or sixteen months. Students compete for opportunities with participating companies through an application and interview process. Upon completion of the Internship, students return to campus to complete their degree program. Students securing positions will be required to register in COMMERCE 3IN0, Commerce Internship Program, successfully complete a minimum of an eight-month Internship, obtain a satisfactory employer evaluation, and submit a work term report upon return to campus. Meeting these requirements will result in a transcript notation indicating the successful completion of COMMERCE 3IN0, the name of the Internship employer and dates of employment. Students are also required to attend a series of six preparatory career development sessions prior to competing for internship opportunities. For more information, please contact the Manager, Commerce Career Resource Centre, DeGroote School of Business, Room 112.

EXCHANGE PROGRAMS

There are a number of official exchange programs offered to undergraduate students registered in the School of Business. The countries involved are: Australia, Denmark, England, France, Japan, the Netherlands, Norway, Mexico and Singapore. Official exchange programs offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign student fees by paying fees to McMaster.

Programs

PROGRAM NOTES

1. Students in Business I are not eligible to take upper Level Commerce course work.
2. Students have only one opportunity to be reviewed for entry to Commerce II. Other options may be pursued through the Academic Programs Office.
3. To be considered for entry into Commerce II a Business I student must have met all of the following:
   a) achieved a CA of at least 5.0 on the 30 units of course work for Business I (on first attempts only).
   b) successfully completed on first attempts only all Business I required courses (ECON 1A08 or both ECON 1B03 and 1B13; COMMERCE 1E03 or 1S03; COMP SCI 1B03; MATH 1A03 or 1M03; and one of ANTHROP 1A03, GEO 1H03, PSYCH 1A03 or SOCIOI 1A08). For students without Grade 12 Advanced Functions and Introductory Calculus U (or equivalent) MATH 1K03 must be taken before MATH 1A03 or 1M03; students without Grade 12 Mathematics of Data Management U (or equivalent) or whose credit in same is older than five years must take STATS 1L03;
   c) have no more than six units of failure in the elective component of Business I courses;
   d) have successfully completed ECON 2X03 if registered in this course in Business I. (ECON 2X03 is not required for admission to Commerce II. Students who elect to register in ECON 2X03 in Business I and who do not successfully complete the course, will not be permitted to enter Commerce II.)
4. Refer to Workload under the Academic Regulations in the School of Business for information on full-time and part-time Business I course loads.
5. Students seeking a Minor in Mathematics and Statistics must take MATH 1A03 and should refer to the Faculty of Science section of this Calendar for the requirements for a Minor in Mathematics and Statistics. Students neither seeking this Minor nor planning on a transfer to the Faculty of Science, are advised to take MATH 1M03.
6. Transfer students may be admitted to Commerce II from other universities or from other Faculties within McMaster University. Transfer students will be expected to complete COMMERCE 1E03 or 1P00, and one of ANTHROP 1A03, GEO 1H03, PSYCH 1A03 or SOCIOI 1A08 as part of the degree requirements. Academic requirements for admission of transfer students will be more demanding than those for Business I students.
7. Admission to either of the Commerce programs beyond Commerce Level II is not possible.

Business I

REQUIREMENTS

LEVEL I: 30 UNITS

Students admitted to Business I must complete 30 units as follows:
1 course
   COMMERCE 1P00
3 units
   COMMERCE 1E03
3-6 units from ANTHROP 1A03, GEO 1H03, PSYCH 1A03, SOCIOI 1A08
SCHOOL OF BUSINESS

6' units
3-12 units
3 units from COMMERCE
3 units
6 units specified in the General Academic Regulations section of this Calendar.

LEVEL II: 30 UNITS
24 units COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 2S03
3 units ECON 2X03
3 units from COMMERCE 2SB3, electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Honours Commerce (Honours B.Com.) {2141}
Requirements for continuation in the Honours B.Com. Program are specified in the General Academic Regulations section of this Calendar.

LEVEL III: 30 UNITS
15 units COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3
6 units Level III or IV Commerce
9 units from COMMERCE 2SB3, electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

LEVEL IV: 30 UNITS
6 units COMMERCE 4PA3, 4SA3
15 units Electives from non-Commerce courses, COMMERCE 2SB3 or Level III or IV Commerce courses
9 units from COMMERCE 2SB3, electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Commerce (B.Com.) {2140}
Requirements for continuation in the B.Com. Program are specified in the General Academic Regulations section of this Calendar.

LEVEL III: 30 UNITS
15 units COMMERCE 3BC3, 3FA3, 3MC3, 3QA3, 3QC3
15 units from COMMERCE 2SB3, electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

LEVEL IV: 30 UNITS
6 units COMMERCE 4PA3, 4SA3
6 units from COMMERCE 2SB3, electives from non-Commerce courses or Level III or IV Commerce courses
18 units from COMMERCE 2SB3, electives from non-Commerce courses. See also the International/Cross-Cultural/Language Menu in this section of the Calendar.

Minor in Business
NOTES
1. The Minor is not open to students registered in any Commerce or Engineering and Management program.
2. Enrolment in each of the Commerce courses comprising the Business Minor, (excluding students registered in Engineering and Management, Commerce and Labour Studies students enrolled in COMMERCE 2BA3 and 3BC3 and students admitted to the Minor in Finance and the Minor in Accounting and Financial Management Services) is limited to 40 students who are registered in a four- or five-level McMaster degree program. Places in these courses will be allocated on a first-come, first-served basis.

3. Effective September 1999, COMMERCE 2AA3, 2FA3 and 2MA3 will also require completion of ECON 1A06 or 1B03 with a minimum grade of B- as a prerequisite; or completion of ECON 2G03 or 2X03 with a minimum grade of B- as a prerequisite.
4. For purposes of the Business Minor, KINESIOL 3L03 will be accepted as a substitute for COMMERCE 2BA3; ECON 2B03, HTH SCI 1F03, 2A03, SOC SCI 2J03, STATS 1CC3, 2MB3, 3J04, 3N03 or 3Y03 will be accepted as a substitute for COMMERCE 2OA3. ECON 2103 will be accepted as a substitute for COMMERCE 2FA3.

REQUIREMENTS
24 units total
6 units ECON 1A06 or 1B03 and 1BB3
18 units COMMERCE 2AA3, 2AB3, 2BA3, 2FA3, 2MA3, 2QA3, 2QB3, 3BC3, 3FA3, 3MC3

Minor in Finance
The School of Business will admit a maximum of 30 students in total to the Minor in Finance and the Minor in Accounting and Financial Management Services each year.

NOTES
1. Application for admission (forms available from the Academic Programs Office) must be submitted to the Academic Programs Office by April 30.
2. Students seeking the Minor must have completed ECON 1A06 with a minimum grade of B- or an average of at least 7.0 in ECON 1B03 and 1BB3.
3. The Minor is not open to students registered in any Commerce or Engineering and Management program.
4. Students seeking to obtain the Minor must complete either ECON 2G03 or 2X03, and both ECON 2B03 and 2H03 before undertaking any Level III or Level IV Finance courses.
5. For the purposes of this Minor, STATS 1CC3, 2MB3, 3J04, 3N03 or 3Y03 will be accepted as a substitute for ECON 2B03.

REQUIREMENTS
33 units total
6 units from ECON 1A06, 1B03, 1BB3
3 units from ECON 2G03, 2X03 (See Note 4 above.)
6 units ECON 2B03, 2H03 (See Note 4 above.)
9 units COMMERCE 2AA3, 2FA3 (or ECON 2103), 3FA3
9 units from COMMERCE 3FB3, 3FC3, 4FA3, 4FD3, 4FE3, 4FF3, 4FG3, 4FH3, 4FJ3, 4FK3, 4FL3, 4FV3, 4FX3

Minor in Accounting and Financial Management Services
The School of Business will admit a maximum of 30 students in total to the Minor in Accounting and Financial Management Services and the Minor in Finance each year.

NOTES
1. Application for admission (forms available from the Academic Programs Office) must be submitted to the Academic Programs Office by April 30.
2. Students seeking the Minor must have completed ECON 1A06 with a minimum grade of B- or an average of at least 7.0 in ECON 1B03 and 1BB3.
3. The Minor is not open to students registered in any Commerce or Engineering and Management program.
4. Students seeking to obtain the Minor must complete either ECON 2G03 or 2X03, and both ECON 2B03 and 2H03 before undertaking any Level III or Level IV Accounting courses.
5. For the purposes of this Minor, STATS 1CC3, 2MB3, 3J04, 3N03 or 3Y03 will be accepted as a substitute for ECON 2B03.

REQUIREMENTS
33 units total
6 units from ECON 1A06, 1B03, 1BB3
3 units from ECON 2G03, 2X03 (See Note 4 above.)
6 units ECON 2B03, 2H03 (See Note 4 above.)
12 units COMMERCE 2AA3, 2AB3, 2BA3, 3AC3
6 units from COMMERCE 4AA3, 4AC3, 4AD3
Engineering is a profession concerned with the creation of new and improved systems, processes and products to serve human needs. The central focus of engineering is design, an art entailing the exercise of ingenuity, imagination, knowledge, skill, discipline and judgment based on experience. The practice of professional engineering requires a mastery of engineering methodology together with a sensitivity to the physical potential of materials, to the logic of mathematics, to the constraints of human, physical and financial resources, to the minimization of risk, and to the protection of the public and the environment.

Bachelor of Technology Programs

The McMaster University Faculty of Engineering and the Mohawk College School of Engineering Technology are collaborating in the development of a unique concept for the shared delivery of technological education in Ontario. The primary purpose of this endeavor is to offer Bachelor of Technology degree programs with a variety of technical specializations. It builds on the very successful Bachelor of Technology program in Manufacturing Engineering Technology that has been offered jointly by both institutions since 1997. This type of program is targeted to individuals whose technological interests are applications-oriented.

The programs to be offered are of two kinds:

a) A four-year degree program (leading to both a Diploma in Technology from Mohawk and a Bachelor of Technology degree from McMaster) with entry directly from high school

b) A degree completion program (leading to a Bachelor of Technology degree) for graduates of the Mohawk College three-year Diploma in Technology (or graduates of similar programs at other Colleges).

A major thrust of all of the programs is the inclusion of a significant component (seven one-term courses) of management education in order to ensure that graduates are able to perform supervisory and management responsibilities as they advance in their technical careers. The management component is designed to form a cohesive segment which complements the technical program content.

For information concerning the Bachelor of Technology programs, please see the Programs for the B.Tech. Degree in this section of this Calendar.

Four-year programs are offered leading to the Bachelor of Engineering Degree in the following fields of specialization:

- Chemical Engineering
- Civil Engineering
- Computer Engineering
- Electrical Engineering
- Electrical and Biomedical Engineering
- Engineering Physics
- Materials Engineering
- Mechanical Engineering
- Mechatronics Engineering
- Software Engineering
- Software Engineering and Embedded Systems
- Software Engineering and Game Design

Five-year programs, leading to the Bachelor of Engineering and Society Degree, are offered in:

- Chemical Engineering and Society
- Civil Engineering and Society
- Computer Engineering and Society
- Engineering Physics and Society
- Electrical Engineering and Society
- Materials Engineering and Society
- Mechanical Engineering and Society
- Mechatronics Engineering and Society
- Software Engineering and Society
- Chemical Engineering and International Studies
- Civil Engineering and International Studies
- Computer Engineering and International Studies
- Electrical Engineering and International Studies
- Engineering Physics and International Studies
- Materials Engineering and International Studies
- Mechanical Engineering and International Studies
- Mechatronics Engineering and International Studies
- Software Engineering and International Studies

In addition, and in conjunction with the School of Business, five-year programs leading to the Bachelor of Engineering and Management degree are offered in:

- Chemical Engineering and Management
- Civil Engineering and Management
- Computer Engineering and Management
- Electrical Engineering and Management
- Engineering Physics and Management
- Materials Engineering and Management
- Mechanical Engineering and Management
- Mechatronics Engineering and Management
- Software Engineering and Management

A five-year program leading to the Bachelor of Engineering and Biosciences is offered in:

- Chemical Engineering and Bioengineering

All programs have limitations on enrolment. Students are admitted to the program following successful completion of Level I. Admission procedures and criteria can be obtained from the Office of the Associate Dean of Engineering. The B.Eng., B.Eng.Biosciences, B.Eng.Mgt. and B.Eng.Society programs are honours degree programs.

McMaster baccalaureate degree programs in Engineering are accredited by the Canadian Engineering Accreditation Board (CEAB) of the Canadian Council of Professional Engineers, except the Mechatronics Engineering, Mechatronics Engineering and Management, Mechatronics Engineering and Society, Software Engineering and Game Design, Software Engineering and Embedded Systems and all of the Engineering and International Studies programs which will be examined for the first time at the next accreditation review. Provincial Engineering Associations accept the accreditation as a major requirement for admission to the qualification Professional Engineer.

At McMaster, Engineering students take a common Level I program comprising Mathematics, Materials, Physics, Chemistry, Engineering Graphics, Introduction to Professional Engineering and Design, Computation and complementary studies electives. The specialized programs are entered at Level II. Students interested in the Engineering and Management programs must take ECON 1803 as one of their electives in Level I. Students interested in one of the Engineering and Society programs are advised to choose the six units complementary studies in Level I to be consistent with their chosen focus of the program.

Programs offered by the Faculty of Engineering include four types of elective courses, which are governed by regulations, as follows:

- Complementary Studies courses are broadening courses with subject matter that deals with central issues, methodologies and thought processes of the humanities and social sciences.

- In addition to ENGINEER 4A03, or equivalent, and 4B03, complementary studies electives are required in all Engineering programs. The Associate Dean of Engineering must authorize each student's complementary studies elective courses. An approved list is published each spring and is available from the Associate Dean's office (http://www.eng.mcmaster.ca/electives/electives.htm). Engineering I students should refer to the Degrees and Programs section of this Calendar to determine which Level I Complementary Studies electives are possible (http://www.eng.mcmaster.ca/electives/l1elec.htm).
Technical Electives are Engineering or Applied Science courses in subjects relevant to the particular B.Eng. program. A list is available in each Engineering Department office.

Commerce Electives are required in Level V of Engineering and Management programs.

Engineering and Society Focus Electives are courses offered by various departments throughout the University. These courses are selected in consultation with the Director of the Engineering and Society program, such that they form a proper sequence of the focus electives.

ENGINEERING CO-OP PROGRAM

Undergraduate students in the Faculty of Engineering can enroll in a Co-op or in a non-Co-op version of each program. Students enrolled in the former must register to complete 12 months of industrial/practical experience prior to graduation. The 12 months experience may be acquired through a combination of three four-month experience terms, including UROP - Undergraduate Research Opportunities Program and the Co-op Summer Experience as well as through a Co-op Internship Experience. Students may enter the Co-op version of their program at any time up to the beginning of Term 2 of their next-to-last level of undergraduate studies.

As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0 or
- ENGINEER 1EE0 and 2EE0, 3EE0 and 4EE0 or
- ENGINEER 1EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EC0

Engineering Co-op Fees

An Engineering Co-op fee will be charged for students registered in an Engineering Co-op Program.

EXCHANGE PROGRAMS

Formal exchange programs with a number of universities in other countries are available for B.Eng. students wishing to attend a foreign university and receive credit at McMaster. For further information please see International Study in the General Academic Regulations section in this Calendar. Information concerning student exchanges can also be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Centre for Student Development, International Student Services.

ACADEMIC REGULATIONS

FOR B.ENG. AND B.A.S.C. PROGRAMS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES

All undergraduate courses at McMaster have an enrollment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGS/SOLAR is available to them.

Students enrolled in the Faculty of Engineering programs not including Bachelor of Technology programs, in addition to meeting the General Academic Regulations of the University, shall be subject to the following Faculty Regulations.

ENGINEERING

To be eligible for a Level II Engineering program, a student must successfully complete all non-elective Level I courses with an overall Cumulative Average (CA) of 4.0 or greater. To help students who may have had academic difficulty during the year, the Faculty of Engineering has a remedial studies plan (called the M-Opportunity) that provides the opportunity to repeat failed courses in second term and/or in the summer. The results of these M-Opportunity courses are used to calculate a new CA (failed courses are still counted in the CA).

A student in Engineering I whoseCumulative Average (CA) is less than 4.0 can no longer continue in Engineering.

COMPUTER SCIENCE I (EFFECTIVE 2008-2009)

To be eligible for Level II Computer Science or Business Informatics a student must successfully complete 24 units of non-elective Level I courses with an overall Cumulative Average (CA) of 4.0 or greater.

A student in Computer Science I whose Cumulative Average (CA) is less than 4.0 can no longer continue in the Faculty.

SEQUENCE OF COURSES

Courses must be taken in the sequence specified in the Calendar for the program. Students must register for all outstanding work of one level before attempting work for a higher level.

REPEATED COURSES

All failed courses must be repeated if they are required courses for the Engineering program or may be replaced if the courses are not explicitly required.

LEVEL OF REGISTRATION

A student is required to register in the lowest level for which more than six units of work is incomplete. Work of a higher level may be undertaken only with the permission of the Associate Dean of Engineering.

RESTATEMENT TO ENGINEERING

A student who is ineligible to continue in the Faculty of Engineering or who may not continue at the university may normally not apply for reinstatement for one full academic year. Exceptions may be made when there are extenuating circumstances which are supported by documentation.

Students seeking reinstatement must complete the Reinstatement Request Form available at the Office of the Registrar or the Office of Student Academic Responsibility. The completed form and the $50 fee must be submitted to the Office of the Registrar by June 30. The form must be accompanied by a written explanation of the reason for the student's previous unsatisfactory academic performance, reasons for reinstatement at this time (including documentation of what has been done to correct previous problems), reasons why the student would expect to succeed in the desired program if reinstated (i.e. what was the previous problem and what has been done to correct it), activities since last registered at McMaster including all academic work. Reinstatement is not guaranteed.

A student who is reinstated after being ineligible to continue at a given level must repeat all the courses of that level, unless specific course exemptions are granted explicitly in the letter of reinstatement. Students who are reinstated will be placed on program probation, and calculation of their Cumulative Average (CA) will begin anew. If at any review after reinstatement the student's Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

PROGRAM CHANGES

All program changes must be made through the Office of the Associate Dean of Engineering.

LEVEL I PROGRAMS

WEB ADDRESS: http://www.eng.mcmaster.ca/engineering/1/

ENGINEERING I: 37 UNITS

ENGINEERING I CO-OP

1 course ENGINEER 1A00

COMPUTER SCIENCE I: 30 UNITS

(EFFECTIVE 2008-2009)

ENGINEERING I CO-OP

1 course ENGINEER 1A00
PROGRAMS FOR THE B.A.SC. DEGREES

Admission to Level II B.A.Sc. Programs

Admission to Level II Honours Computer Science or Honours Business Informatics requires completion of a minimum of 24 units of non-elective Computer Science I courses with a minimum Cumulative Average (CA) of 4.0. All programs have limited enrolment. In addition, admission to the Honours Business Informatics program requires completion of ECON 1B03 and 1B33.

Honours Business Informatics (B.A.Sc.) \{4140\}

Honours Business Informatics \{4140003\}

Co-op (B.A.Sc.)

Subject to approval by the Ministry of Training, Colleges and Universities, beginning in the 2007-2008 academic year, a Bachelor of Applied Sciences (B.A.Sc.) program in Business Informatics will be offered.

Business Informatics is the study of the design and application of information systems for use in business. It lies within the intersection of Computer Science and Business.

ADMISSION

See Admission to Level II Engineering Programs.

LEVEL II: 30 UNITS

15 units COMP SCI 2CS3, 2ME3, 2MJ3, 2003, 2SC3
6 units COMMERCE 2AA3, 2BA3, 2FA3
3 units STATS 2MA3
3 units Electives

LEVEL III: 30 UNITS

18 units COMP SCI 3CN3, 3DB3, 3EA3, 3IS3, 3MH3, 3SR3
12 units COMMERCE 2BA3, 2MA3, 3FA3, 4QA3

LEVEL IV: 30 UNITS

9 units COMP SCI 4AR3, 4HC3, 4WW3
3 units COMMERCE 3BC3
6 units from COMMERCE 4BK3, 4QB3, 4QF3, 4QH3
9 units Levels III and IV Computer Science
3 units Electives

Honours Arts & Science and Computer Science (B.Arts.Sc.; See Arts & Science Program)

Honours Computer Science (B.Sc.; See Faculty of Science, Department of Computing and Software)

Honours Economics and Computer Science (B.A.; See Faculty of Social Sciences, Department of Economics)

Honours Mathematics and Computer Science (B.A.; See Faculty of Science, Department of Mathematics and Statistics)

Honours Computer Science (B.A.Sc.) \{4145\}

Honours Computer Science \{4145003\}

Co-op (B.A.Sc.)

The Honours Computer Science (B.A.Sc.) program in the Faculty of Engineering is replacing the Honours Computer Science (B.Sc.) program in the Faculty of Science. The Honours Computer Science program in the Faculty of Science is being phased out and registration in Level III of that program will be last available in September 2007. All new students should register in the Honours Computer Science (B.A.Sc.) program.

ADMISSION

See Admission to Level II Engineering Programs.

LEVEL II: 30 UNITS

21 units COMP SCI 2CA3, 2CS3, 2ME3, 2MF3, 2MJ3, 2003, 2SC3
3 units STATS 2MA3
6 units Electives

LEVEL III: 30 UNITS

24 units COMP SCI 3CN3, 3DA3, 3DB3, 3EA3, 3IS3, 3MH3, 3313, 3SR3
6 units Electives

LEVEL IV: 30 UNITS

21 units COMP SCI 4CD3, 4HC3, 4MN3, 4TB3, 4WW3, 4ZP6
3 units from COMP SCI 4AR3, 4TC3, 4TE3
3 units Electives

Minor in Computer Science

REQUIREMENTS

24 UNITS IN TOTAL

6 units COMP SCI 1FC3, 1MD3
12 units from COMP SCI 2CA3, 2ME3, 2ME3, 2MF3, 2MJ3, 2003, 2SC3
6 units from COMP SCI 3CN3, 3DA3, 3EA3, 3MH3

PROGRAMS FOR THE B.ENG., B.ENG.BIOSCIENCES, B.ENG.MGT., AND B.ENG.SOCIETY DEGREES

Admission to Level II Engineering Programs

Admission to Level II Engineering programs requires completion of all non-elective Engineering I courses with a minimum Cumulative Average (CA) of 4.0. All programs have limited enrolment; should there be more applicants than the limiting number in any program, admission to that program will be based on a points system, computed as the product of the Sessional Average (SA) and the number of units taken in the session (a minimum of 31 units will be used in the calculation). Students who do not meet the requirements to proceed to Level II in May will have a Pending flag put on their allocation. The Pending flag will be removed in August if the student completes the requirements over the summer.

In addition, admission to a B.Eng.Mgt. program requires the completion of ECON 1B03 with a minimum grade of 5.0; an interview may also be required.

Students admitted to a B.Eng.Society program are required to submit a statement indicating the educational objectives for the focus electives.

Students seeking admission to the Engineering and Management program, the Engineering and Society program, or the Engineering and International Studies program must first be admitted to one of these three programs.

Chemical Engineering (B.Eng.) \{4080\}

Chemical Engineering Co-op (B.Eng.) \{4080003\}

ADMISSION

See Admission to Level II Engineering Programs.

NOTES

1. Students may choose to follow a stream of recommended technical elective courses.

PROCESS SYSTEMS ENGINEERING (PSE) STREAM:

- Required Courses: CHEM ENG 4C03, 4E03, 4G03, 4L02 (PSE laboratories completed), 4W04 (with approved PSE project). Other courses may be substituted with permission of the Department Chair.

POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:

- Required Courses: CHEM ENG 3Q03, 4B03, 4C03, 4L02 (PMM laboratories completed), 4W04 (with approved PMM project), 4X03. Other courses may be substituted with permission of the Department Chair.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- **ENGINEER 1E00, 2E00, 3E00 and 4E00, or**
- **ENGINEER 1E00, 2E00 and 4E00, or**
- **ENGINEER 1E00 and 4E00 or**
- **ENGINEER 1E00 and 4E00**

LEVEL II: 36 UNITS

15 units CHEM ENG 2A04, 2D04, 2F04, 2G03
6 units CHEM 1AA3, 2A03
6 units MATH 2M03, 2MM3
3 units STATS 3N03
6 units approved complementary studies electives
LEVEL III: 38 UNITS
29 units CHEM ENG 3D03, 3E04, 3G04, 3K04, 3L02, 3M04, 3Q04, 3P04
9 units 3-6 units from CHEM 2E03; or both CHEM 20A3 and 20B3
3-6 units from BIOCHEM 2EE3, CHEM ENG 3Q03, CHEM 3I03

LEVEL IV: 37-38 UNITS
10 units CHEM ENG 4L02, 4N04, 4W04
3 units from ENGINEER 4A03, 4H03
12 units from CHEM ENG 4B03, 4E03, 4G03, 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03
3 units complementary studies electives
9-10 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

Chemical Engineering and Management (B.Eng.Mgt.) {4080325}
Chemical Engineering and Management Co-op (B.Eng.Mgt.) {4080323}

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. Students may choose to follow a stream of recommended technical elective courses.

PROCESS SYSTEMS ENGINEERING (PSE) STREAM:
• Required Courses: CHEM ENG 4C03, 4E03, 4G03, 4L02 (PSE laboratories completed), 4W04 (with an approved PSE project). Other courses may be substituted with permission of the Department Chair.

POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:
• Required Courses: CHEM ENG 3C03, 4B03, 4C03, 4L02 (PMM laboratories completed), 4W04 (with approved PMM project), 4X03, ENGINEER 2003 (or MATLS 1M03). Other courses may be substituted with permission of the Department Chair.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   • ENGINEER 1E00, 2E00, 3E00 and 4E00, or
   • ENGINEER 1E00, 2E00 and 4E0 or 4E0, or
   • ENGIN G1E00 and 4E0, or
   • ENGINEER 1E00 and 4E0 or
   • ENGINEER 1E00 and 4E0 or
   • ENGINEER 1E00 and 4E0

3. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies electives in Level I.)

LEVEL V: 37-38 UNITS
10 units CHEM ENG 4L02, 4N04, 4W04
6 units COMMERCE 3BC3, 4PA3
9 units from CHEM ENG 4B03, 4E03, 4G03, 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03
6 units Commerce electives selected from Level III or IV Commerce
3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

Chemical Engineering and Society (B.Eng.Society) {4080535}
Chemical Engineering and Society Co-op (B.Eng. Society) {4080125}
International Studies (B.Eng. Society) {4080123}
International Studies Co-op (B.Eng. Society)

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. Students may choose to follow a stream of recommended technical elective courses.

PROCESS SYSTEMS ENGINEERING (PSE) STREAM:
• Required Courses: CHEM ENG 4C03, 4E03, 4G03, 4L02 (PSE laboratories completed), 4W04 (with an approved PSE project). Other courses may be substituted with permission of the Department Chair.

POLYMER MATERIALS AND MANUFACTURING (PMM) STREAM:
• Required Courses: CHEM ENG 3C03, 4B03, 4C03, 4L02 (PMM laboratories completed), 4W04 (with approved PMM project), 4X03, ENGINEER 2003 (or MATLS 1M03). Other courses may be substituted with permission of the Department Chair.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   • ENGINEER 1E00, 2E00, 3E00 and 4E00, or
   • ENGINEER 1E00, 2E00 and 4E0 or 4E0, or
   • ENGIN G1E00 and 4E0, or
   • ENGINEER 1E00 and 4E0 or
   • ENGINEER 1E00 and 4E0 or
   • ENGINEER 1E00 and 4E0

3. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies electives in Level I.)
FACULTY OF ENGINEERING

SOCIETY:
6 units ENGSOCTY 3X03, 3Z03
3-6 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
6 units ENGINEER 3PM3, ENGSOCTY 3X03
3 units International Studies focus electives

LEVEL V: 34-35 UNITS
10 units CHEM ENG 4L02, 4N04, 4W04
9 units from CHEM ENG 4E03, 4E03, 4G03, 4K03, 4M03, 4T03, 4X03, ENGINEER 4U03
3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

Chemical Engineering and Bioengineering (B.Eng.Biosci.)

Chemical Engineering and Bioengineering Co-op (B.Eng.Biosci.)

ADMISSION
See Admission to Level II Engineering Programs.

NOTE

As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0

LEVEL II: 36 UNITS
15 units CHEM ENG 2A04, 2D04, 2F04, 2G03
3 units CHEM 1AA3
3 units BIOLOGY 1A03
6 units HTH SCI 2L03, 2L13
6 units MATH 2M03, 2M13
3 units STATS 3N03

LEVEL III: 37-40 UNITS
24 units BIOLOGY 2EE3, CHEM ENG 3D03, 3G04, 3K04, 3L02, 3M04, 3N04
3 units CHEM 2A03
3-6 units CHEM 2E03, or both CHEM 2A03 and 2B03
3 units BIOCHEM 2EE3
3 units approved complementary studies electives

LEVEL IV: 37-38 UNITS
19 units CHEM ENG 3BK3, 3BM3, 3E04, 3P04, 4L02, 4L13
3 units BIOCHEM 3G03
3 units from ENGINEER 4A03, 4H03
6 units from CHEM 3G03, CHEM ENG 3Q03, MATL 1M03 (or ENGINEER 2003)
3 units approved complementary studies electives
3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

LEVEL V: 38-39 UNITS
11 units CHEM ENG 4N04, 4T03, 4W04
12 units from CHEM ENG 4B03, 4C03, 4E03, 4G03, 4K03, 4M03, 4X03, 4Z03
3 units ENGINEER 4U03
6 units approved technical electives from biosciences or bioengineering
3 units approved complementary studies electives
3-4 units Level III or IV technical electives from approved list or permission of the Department of Chemical Engineering

Civil Engineering (B.Eng.)
Structural/Geotechnical Engineering Stream
Water/Environmental Engineering Stream

Civil Engineering Co-op (B.Eng.)
Structural/Geotechnical Engineering Stream
Water/Environmental Engineering Stream

ADMISSION
See Admission to Level II Engineering Programs.

NOTES

1. Students entering Level II can choose between a Structural/Geotechnical Engineering Stream (S/G Stream) and a Water/Environmental Engineering Stream (W/E Stream).

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0

3. Level IV Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level III, students must complete a Civil Engineering electives form and ensure that it has been approved by the Department before completing Level IV Registration.

4. To meet the capstone project requirement, all students in their final level must complete one of the following project courses: CIV ENG 4C04 or 4R04

LEVEL II: 37 UNITS
27 units CIV ENG 2A03, 2B03, 2C04, 2E03, 2H03, 2I04, 2J04, 2K03
4 units ENGINEER 2P04
6 units MATH 3M03, 3M13

LEVEL III: 38 UNITS
25 units CIV ENG 3A03, 3B03, 3C03, 3G03, 3H03, 3K03, 3M03, 3P03
4 units STATS 3J04
6 units S/G Stream: CIV ENG 3R03, 3S03
W/E Stream: CIV ENG 3L03, 3U03

LEVEL IV: 34-36 UNITS
3 units ENGINEER 4B03
3 units from ENGINEER 4A03, 4H03
4 units approved complementary studies electives
4 units from CIV ENG 4C04, 4R04
21-23 units S/G Stream: from approved list of Level IV Civil Engineering technical electives
W/E Stream: from approved list of Level III and IV Civil Engineering technical electives

Civil Engineering and Management (B.Eng.Mgt.)
Structural/Geotechnical Engineering Stream
Water/Environmental Engineering Stream

Civil Engineering and Management Co-op (B.Eng.Mgt.)
Structural/Geotechnical Engineering Stream
Water/Environmental Engineering Stream

ADMISSION
See Admission to Level II Engineering Programs.

NOTES

1. Students entering Level II can choose between a Structural/Geotechnical Engineering Stream (S/G Stream) and a Water/Environmental Engineering Stream (W/E Stream).

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0
3. Level V Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level IV, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing Level V Registration.

4. To meet the capstone project requirement, all students in their final level must take or complete one of the following project courses: CIV ENG 4C04 or 4R04.

**LEVEL II: 40 UNITS**

- **21 units** CIV ENG 2A03, 2B03, 2C04, 2I03, 2J04, 2O04
- **6 units** COMMERCE 2AA3, 2MA3
- **3 units** ECON 2X03
- **4 units** ENGINEER 2P04
- **6 units** MATH 2M03, 2M3M

**LEVEL III: 38 UNITS**

- **18 units** CIV ENG 2E03, 2Q03, 3A03, 3B03, 3G03, 3M03
- **9 units** COMMERCE 2AB3, 2BA3, 2FA3
- **3 units** ECON 1B03
- **4 units** STATS 3J04
- **3 units** approved complementary studies electives
  - **1 unit** ENGN MGT 3AA1

**LEVEL IV: 35 UNITS**

- **13 units** CIV ENG 3C03, 3J04, 3K03, 3P03
- **12 units** COMMERCE 3BC3, 3FA3, 3MC3, 4A3
- **3 units** Commerce electives selected from Level III or IV
  - **1 unit** ENGN MGT 4A01
  - **6 units** S/G Stream: CIV ENG 3R03, 3S03
  - **WE Stream:** CIV ENG 3L03, 3U03

**LEVEL V: 36-37 UNITS**

- **3 units** COMMERCE 4PA3
- **3 units** Commerce electives selected from Level III or IV
  - **3 units** ENGN MGT 5B03
  - **3 units** from ENGINEER 4A03, 4H03
  - **4 units** from CIV ENG 4C04, 4R04
  - **20-21 units** S/G Stream: from approved list of Level IV Civil Engineering technical electives
  - **WE Stream:** from approved list of Level III and IV Civil Engineering technical electives

**Civil Engineering and Society (B.Eng.Society)**

**Structural/Geotechnical Engineering Stream**

4110535

**Water/Environmental Engineering Stream**

4130535

**Civil Engineering and Environmental Society Co-op (B.Eng.Society)**

**Structural/Geotechnical Engineering Stream**

41105353

**Water/Environmental Engineering Stream**

41305333

**Civil Engineering and International Studies (B.Eng.Society)**

**Structural/Geotechnical Engineering Stream**

4110125

**Water/Environmental Engineering Stream**

4130125

**Civil Engineering and International Studies Co-op (B.Eng.Society)**

**Structural/Geotechnical Engineering Stream**

4110123

**Water/Environmental Engineering Stream**

4130123

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. Students entering Level II can choose between a Structural/Geotechnical Engineering Stream (S/G Stream) and a Water/Environmental Engineering Stream (W/E Stream).
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   - **ENGINEER 1E00, 2E00, 3E00 and 4E00**, or
   - **ENGINEER 1E00, 2E00 and 4EA0**, or
   - **ENGINEER 1E00 and 4EB0**, or
   - **ENGINEER 1E00 and 4EC0**

3. Level V Civil Engineering courses must be selected in accordance with regulations which require a minimum content of 10 units of engineering design and synthesis. Before the end of Level IV, students must complete a Civil Engineering electives form, and ensure that it has been approved by the Department before completing Level V Registration.

4. To meet the capstone project requirement, all students in their final level must take or complete one of the following project courses: CIV ENG 4C04 or 4R04.

5. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)

**LEVEL II: 40 UNITS**

- **21 units** CIV ENG 2A03, 2B03, 2C04, 2I03, 2J04, 2O04
- **4 units** ENGINEER 2P04
- **6 units** MATH 2M03, 2M3M

**SOCIETY:**

- **6 units** ENGSOCTY 2X03, 2Y03
- **6 units** Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- **9 units** ANTHROP 1A03, ENGSOCTY 2X03, 2Y03

**LEVEL III: 31-34 UNITS**

- **18 units** CIV ENG 2E03, 2Q03, 3A03, 3B03, 3G03, 3M03
- **4 units** STATS 3J04

**SOCIETY:**

- **3 units** ENGSOCTY 2Y03
- **6-9 units** Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- **3-6 units** POL SCI 2A06, 2XX3, RELIG ST 1B06
- **3-6 units** International Studies focus electives

**LEVEL IV: 31-34 UNITS**

- **13 units** CIV ENG 3C03, 3J04, 3K03, 3P03
- **6 units** S/G Stream: CIV ENG 3R03, 3S03
- **WE Stream:** CIV ENG 3L03, 3U03

**SOCIETY:**

- **6 units** ENGSOCTY 3X03, 3Z03
- **6-9 units** Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- **6 units** ENGINEER 3PM3, ENGSOCTY 3X03
- **3 units** International Studies focus electives

**LEVEL V: 36-37 UNITS**

- **3 units** ENGINEER 4B03
- **4 units** from CIV ENG 4C04, 4R04
- **20-21 units** S/G Stream: from approved list of Level IV Civil Engineering technical electives
- **WE Stream:** from approved list of Level III and IV Civil Engineering technical electives

**SOCIETY:**

- **6 units** ENGSOCTY 4X03, 4Z03
- **3 units** Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- **6 units** ENGINEER 4SC3, ENGSOCTY 4X03
- **3 units** International Studies focus electives

**Computer Engineering (B.Eng.)**

4144

**Computer Engineering Co-op (B.Eng.)**

4144003

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTE**

As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- **ENGINEER 1E00, 2E00, 3E00 and 4E00**, or
- **ENGINEER 1E00, 2E00 and 4EA0**, or
- **ENGINEER 1E00 and 4EB0**, or
- **ENGINEER 1E00 and 4EC0**

**LEVEL II: 37 UNITS**

- **16 units** COMP ENG 2D14, 2DP4, 2SH4, 2SJ4
- **17 units** ELEC ENG 2C15, 2CJ4, 2E15, 2FH3
- **4 units** MATH 2P04
FACULTY OF ENGINEERING

LEVEL III: 34 UNITS (2007-2008 ONLY)
11 units COMP ENG 3DQ4, 3DR4, 3SK3
16 units ELEC ENG 3EJ4, 3TP4, 3TQ4, 3TR4
3 units MATH 3K03
4 units SFWR ENG 3K04

LEVEL III: 37 UNITS (EFFECTIVE 2008-2009)
11 units COMP ENG 3DG4, 3DR4, 3SK3
18 units ELEC ENG 3EJ4, 3TP4, 3TQ4, 3TR4
3 units MATH 3K03
4 units SFWR ENG 3K04
3 units approved complementary studies electives

LEVEL IV: 36-38 UNITS
21 units COMP ENG 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
3 units ENGINEER 4B03
3 units from ENGINEER 4A03, 4H03
3 units SFWR ENG 3SH3
3-4 units technical electives from Computer Engineering or Electrical Engineering Level III or IV
3-4 units approved Level III or IV technical electives of the Faculty of Engineering

Computer Engineering and Management (B.Eng.Mgt.) (4144325)

Computer Engineering and Management Co-op (B.Eng.Mgt.) (4144323)

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0

LEVEL II: 38 UNITS
3 units COMMERC 2A3A
8 units COMP ENG 2SH4, 2SI4
6 units ECON 1B33, 2X03
12 units ELEC ENG 2C15, 2CJ4, 2FH3
2 units ENGN MGT 2AA2
4 units MATH 2P04
3 units approved complementary studies electives

LEVEL III: 37 UNITS
12 units COMMERC 2AB3, 2BA3, 2FA3, 2MA3
13 units ELEC ENG 2E15, 3TP4, 3TQ4
8 units ELEC ENG 2D14, 2DP4
1 unit ENGN MGT 3AA1
3 units MATH 3K03

LEVEL IV: 39 UNITS
8 units ELEC ENG 3EJ4, 3TR4
8 units COMP ENG 3DQ4, 3DR4
4 units SFWR ENG 3K04
8 units COMMERC 3BG3, 3FA3, 3MC3
3 units STATS 3Y03
1 unit ENGN MGT 4A01
3 units from ENGINEER 4A03, 4H03
3 units Commerce electives selected from Level III or IV Commerce

LEVEL V: 39 UNITS
6 units COMMERC 4PA3, 4QA3
24 units COMP ENG 3SK3, 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
3 units SFWR ENG 3SH3
3 units ENGN MGT 5P03
3 units Commerce electives selected from Level III or IV Commerce

Computer Engineering and Society (B.Eng.Society) (4144535)

Computer Engineering and Society Co-op (B.Eng.Society) (4144533)

Computer Engineering and International Studies (B.Eng.Society) (4144125)

International Studies Co-op (B.Eng.Society) (4144123)

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following course of the program prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0

LEVEL II: 37 UNITS
12 units COMP ENG 2DI4, 2SH4, 2SI4
12 units ELEC ENG 2C15, 2CJ4, 2FH3
4 units MATH 2P04

SOCIETY:
6 units ENGSOC 2X03, 2X03
3 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
9 units ANTHROP 1A03, ENGSOC 2X03, 2Y03

LEVEL III: 35 UNITS
7 units COMP ENG 2DP4, 3SK3
9 units ELEC ENG 2E15, 3TP4
3 units MATH 3K03

SOCIETY:
6 units ENGSOC 3Y03, 3Z03
3 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
3 units from POL SCI 2A06, 2X03, RELIG ST 1906
6-9 units International Studies focus electives

LEVEL IV: 32-35 UNITS
8 units COMP ENG 3DQ4, 3DR4
12 units ELEC ENG 3EJ4, 3TC4, 3TR4
3 units ENGINEER 4B03

SOCIETY:
3 units ENGSOCY 3K03
6-9 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
6 units ENGINEER 3M3, ENGSOCY 3X03
3-6 units International Studies focus electives

LEVEL V: 36-37 UNITS
21 units COMP ENG 4DK4, 4DM4, 4DN4, 4DS4, 4OI5
3 units SFWR ENG 3SH3
3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV

SOCIETY:
6 units ENGSOCY 4X03, 4Z03
3 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
6 units ENGINEER 4SC3, ENGSOCY 4X03
3 units International Studies focus electives

Electrical Engineering (B.Eng.) (4170)

Electrical Engineering Co-op (B.Eng.) (4170003)

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EB0, or
- ENGINEER 1EE0 and 4EC0
LEVEL II: 37 UNITS
17 units ELEC ENG 2CI5, 2CJ4, 2EI5, 2FH3
12 units COMP ENG 2DI4, 2SH4, 2SI4
8 units MATH 2P04, 2Q04

LEVEL III: 37 UNITS
7 units COMP ENG 2DP4, 3SK3
24 units ELEC ENG 3EJ4, 3FK4, 3PI4, 3TP4, 3TQ4, 3TR4
3 units MATH 3K03
3 units approved complementary studies electives

LEVEL IV: 37-39 UNITS
5 units ELEC ENG 4O15
3 units ENGINEER 4B03
4 units SFWR ENG 3M04
16 units from COMP ENG 3DQ4, 3DR4, 4DK4, 4DM4, 4DN4, 4DS4, 4TL4, ELEC ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4PK4, 4TK4
3-4 units technical electives from an approved list of Computer Engineering or Electrical Engineering Level III or IV
3-4 units technical electives (from Level III or IV of the Faculty of Engineering)
3 units from ENGINEER 4A03, 4H03

Electrical and Biomedical Engineering (B.Eng.) {4171}

Electrical and Biomedical Engineering Co-op (B.Eng.) {4171003}

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1E00, 2E00, 3E00 and 4E00, or
- ENGINEER 1E00, 2E00 and 4E0A, or
- ENGINEER 1E00 and 4E0B, or
- ENGINEER 1E00 and 4E0C

LEVEL II: 39 UNITS
14 units ELEC ENG 2CI5, 2CJ4, 2EI5
8 units COMP ENG 2SH4, 2SI4
8 units MATH 2P04, 2Q04
3 units BIOLOGY 1A03
3 units CHEM 1AA3
3 units approved complementary studies electives

LEVEL III: 40 UNITS
17 units ELEC ENG 2FH3, 3BA3, 3BB3, 3EJ4, 3TP4
8 units COMP ENG 2DI4, 2DP4
3 units MATH 3K03
6 units CHEM 2CA3, 2CB3
6 units HTH SCI 2L03, 2LL3

LEVEL IV: 37 UNITS
4 units COMP ENG 4TL4
27 units ELEC ENG 3TQ4, 3TR4, 4BC3, 4BD4, 4BE4, 4BF3, 4B15
3 units from ENGINEER 4A03, 4H03
3 units ENGINEER 4B03

Electrical Engineering and Management (B.Eng.Mgt.) {4170325}

Electrical Engineering and Management Co-op (B.Eng.Mgt.) {4170323}

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1E00, 2E00, 3E00 and 4E00, or
- ENGINEER 1E00, 2E00 and 4E0A, or
- ENGINEER 1E00 and 4E0B, or
- ENGINEER 1E00 and 4E0C

LEVEL II: 39 UNITS
3 units COMMERCE 2A1A
6 units ECON 1B14, 2X03
8 units COMP ENG 2SH4, 2SI4
12 units ELEC ENG 2CI5, 2CJ4, 2FH3
2 units ENGINEER 1B1A
8 units MATH 2P04, 2Q04

LEVEL III: 40 UNITS
12 units COMMERCE 2A03, 2A04, 2FA3, 2MA3
11 units COMP ENG 2DI4, 2DP4, 3SK3
13 units ELEC ENG 2E15, 3TP4, 3TQ4
1 unit ENGINEER 1B03
3 units MATH 3K03

LEVEL IV: 35 UNITS (2007-2008 ONLY)
9 units COMMERCE 3B03, 3F03, 3M03
12 units ELEC ENG 3EJ4, 3PI4, 3TR4
4 units SFWR ENG 3M04
3 units from ENGINEER 4A03, 4H03
1 unit ENGINEER 4A01
3 units STATISTICS 3Y03
3 units Commerce electives selected from Level III or IV Commerce

LEVEL IV: 39 UNITS (EFFECTIVE 2008-2009)
9 units COMMERCE 3B03, 3F03, 3M03
16 units ELEC ENG 3EJ4, 3FK4, 3PI4, 3TR4
4 units SFWR ENG 3M04
3 units from ENGINEER 4A03, 4H03
1 unit ENGINEER 4A01
3 units STATISTICS 3Y03
3 units Commerce electives selected from Level III or IV Commerce

6 units COMMERCE 4PA3, 4QA3
3 units COMP ENG 3SK3
16 units from COMP ENG 3DQ4, 3DR4, 4DK4, 4DM4, 4DN4, 4DS4, 4TL4, ELEC ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PL4, 4PK4
5 units ELEC ENG 4O15
3 units ENGINEER 5B03
3 units Commerce electives selected from Level III or IV Commerce
3-4 units technical electives (from Level III and IV of the Faculty of Engineering)

LEVEL V: 39-40 UNITS (EFFECTIVE 2008-2009)
6 units COMMERCE 4PA3, 4QA3
16 units from COMP ENG 3DQ4, 3DR4, 4DK4, 4DM4, 4DN4, 4DS4, 4TL4, ELEC ENG 4BD4, 4BE4, 4CL4, 4FJ4, 4PK4, 4PL4, 4TK4
5 units ELEC ENG 4O15
3 units ENGINEER 5B03
3 units approved complementary studies electives
3 units Commerce electives selected from Level III and IV Commerce or COMMERCE 2QB3
3-4 units technical electives (from Level III and IV of the Faculty of Engineering)

Electrical Engineering and Society (B.Eng.Society) {4170535}

Electrical Engineering and Society Co-op (B.Eng.Society) {4170533}

Electrical Engineering and International Studies (B.Eng.Society) {4170125}

Electrical Engineering and International Studies Co-op (B.Eng.Society) {4170123}

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)
The Department of Engineering Physics offers a common core with four streams of study:
- Interdisciplinary Engineering (I Stream)
- Nano- and Micro-Devices (N Stream)
- Nuclear Engineering and Energy Systems (E Stream)
- Photonics Engineering (P Stream)

Level II is common to all streams. All students entering Level II will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level III choose one of the four streams offered in Engineering Physics.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1E00, 2E00, 3E00 and 4E00, or
- ENGINEER 1E00, 2E00 and 4E00, or
- ENGINEER 1E00 and 4E00, or
- ENGINEER 1E00 and 4E04

**LEVEL II: 38 UNITS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>COMP ENG 2D14, COMP ENG 2SH4, 2SI4</td>
<td>12 units</td>
</tr>
<tr>
<td>ELEC ENG 2C15, 2CJ4</td>
<td>9 units</td>
</tr>
<tr>
<td>MATH 2P04, 2Q04</td>
<td>8 units</td>
</tr>
</tbody>
</table>

**SOCIETY:**
- 6 units ENGSOCTY 2X03, 2Y03
- 3 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**
- 9 units ANTHROP 1A03, ENGSOCTY 2X03, 2Y03

**LEVEL III: 35-41 UNITS**

<table>
<thead>
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<th>Course Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>COMP ENG 2D14, 3SK3</td>
<td>7 units</td>
</tr>
<tr>
<td>ELEC ENG 2E15, 2FH3, 3TQ4</td>
<td>12 units</td>
</tr>
<tr>
<td>MATH 3K03</td>
<td>3 units</td>
</tr>
<tr>
<td>SFWR ENG 3M04</td>
<td>4 units</td>
</tr>
</tbody>
</table>

**SOCIETY:**
- 6 units ENGSOCTY 3Y03, 3Z03
- 3-9 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**
- 6 units COMP ENG 3A06, 3XK3, RELIG ST 1B06
- 3-6 units International Studies focus electives

**LEVEL IV: 32-35 UNITS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ELEC ENG 3EJ4, 3FK4, 3P14, 3TQ4, 3TR4</td>
<td>20 units</td>
</tr>
<tr>
<td>ENGINEER 4EB0</td>
<td>3 units</td>
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</tbody>
</table>

**SOCIETY:**
- 6 units ENGSOCTY 3X03
- 9 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**
- 6 units ENGINEER 3PM3, ENGSOCTY 3X03
- 3-6 units International Studies focus electives

**LEVEL V: 36-37 UNITS**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELEC ENG 4A03</td>
<td>5 units</td>
</tr>
<tr>
<td>COMP ENG 3D04, 3DR4, 4DK4, 4DM4, 4DN4, 4DS4, 4L4, 4LE4, 4P04, 4P4, 4PK4, 4PL4, 4TQ4</td>
<td>16 units</td>
</tr>
</tbody>
</table>

**SOCIETY:**
- 6 units ENGSOCTY 4X03, 4Z03
- 6 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**
- 6 units ENGINEER 4SC3, ENGSOCTY 4X03
- 6 units International Studies focus electives

**Engineering Physics (B.Eng.)**

- Interdisciplinary Engineering Stream
  - [4194]
- Nuclear Engineering and Energy Systems Stream
  - [4191]
- Nano- and Micro-Devices Stream
  - [4192]
- Photonics Engineering Stream
  - [4193]

**Engineering Physics Co-op (B.Eng.)**

- Interdisciplinary Engineering Stream
  - [4194003]
- Nuclear Engineering and Energy Systems Stream
  - [4191003]
- Nano- and Micro-Devices Stream
  - [4192003]
- Photonics Engineering Stream
  - [4193003]

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. The Department of Engineering Physics offers a common core with four streams of study:
   - Interdisciplinary Engineering (I Stream)
   - Nano- and Micro-Devices (N Stream)
   - Nuclear Engineering and Energy Systems (E Stream)
   - Photonics Engineering (P Stream)
Level II and III are common to all streams in a five-level program. All students entering Level I will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level IV choose one of the four streams offered in Engineering Physics.

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   - **ENGINEER 1EEO, 2EEO and 4EEO, or**
   - **ENGINEER 1EEO, 2EEO, 3EEO and 4EEO, or**
   - **ENGINEER 1EEO and 4EEO, or**
   - **ENGINEER 1EEO and 4EEO**

**LEVEL II: 39 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>6</td>
<td>COMMERC 2AA3, 2MA3</td>
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<tr>
<td>3</td>
<td>ENGN MG T2AA2, 3AA1</td>
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<tr>
<td>4</td>
<td>ENGINEER 2P04</td>
</tr>
<tr>
<td>15</td>
<td>ENG PHYS 2A04, 2E04, 2H04, 2OM3</td>
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<tr>
<td>6</td>
<td>MATH 2P04, 2Q04</td>
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<tr>
<td>3</td>
<td>PHYSICS 2D03</td>
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**LEVEL III: 37 UNITS**

<table>
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<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>9</td>
<td>COMMERC 2AB3, 2BA3, 2FA3</td>
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<td>6</td>
<td>ECON 1B3, 2X03</td>
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<td>ENG PHYS 2S03, 3F03, 3W04</td>
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<td>6</td>
<td>MATH 3C03, 3D03</td>
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<tr>
<td>6</td>
<td>PHYSICS 3B03, 3B3</td>
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</table>

**LEVEL IV: 39 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>12</td>
<td>COMMERC 3BC3, 3FA3, 3MC3, 4QA3</td>
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<td>1</td>
<td>ENGN MG T4A01</td>
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<td>ENG PHYS 4U04</td>
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<td>3</td>
<td>MATH 4Q03</td>
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<tr>
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<td>approved complementary studies electives</td>
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<td>3</td>
<td>Commerce electives selected from Level III or IV</td>
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<tr>
<td>13</td>
<td>Stream specific:</td>
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<td></td>
<td>I Stream ENG PHYS 3D03, 3E03, 3PN4; 3 units from ENG PHYS 3A03, 3ES3, 3MD3</td>
</tr>
<tr>
<td></td>
<td>M Stream ENG PHYS 3E03, 3MD3, 3PN4; 3 units approved Level III or IV technical electives</td>
</tr>
<tr>
<td></td>
<td>N Stream ENG PHYS 3D03, 3ES3, 3CO4; 3 units technical electives</td>
</tr>
<tr>
<td></td>
<td>P Stream ENG PHYS 3A03, 3E03, 3G03, 3PN4</td>
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</tbody>
</table>

**LEVEL V: 39-40 UNITS**

<table>
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<tr>
<th>Units</th>
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<tbody>
<tr>
<td>3</td>
<td>COMMERC 4PA3</td>
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<tr>
<td>3</td>
<td>ENGN MG T5B03</td>
</tr>
<tr>
<td>6</td>
<td>ENG PHYS 4A06</td>
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<td>3</td>
<td>Commerce electives selected from Level III or IV</td>
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<td>24-25</td>
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<td>I Stream ENG PHYS 4L04, 4M04, 4S04; 12-13 units of approved Level III or IV technical electives</td>
</tr>
<tr>
<td></td>
<td>M Stream ENG PHYS 4F03, 4MD4, 4Z03; 14-15 units of approved Level III or IV technical electives</td>
</tr>
<tr>
<td></td>
<td>N Stream ENG PHYS 4D03, 4ES3, 4LO4, 4NE3; 11-12 units of approved Level III or IV technical electives</td>
</tr>
<tr>
<td></td>
<td>P Stream ELEC ENG 3FK4, 3TR4; ENG PHYS 4K03, 4S04; 9-10 units of approved Level III or IV technical electives</td>
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</table>

**Engineering Physics and Society (B.Eng.Society)**

**Interdisciplinary Engineering Stream** {4194535}

**Nuclear Engineering and Energy Systems Stream** {4191535}

**Nano- and Micro-Devices Stream** {4192535}

**Photonics Engineering Stream** {4193535}

**Engineering Physics and Society Co-op (B.Eng.Society)**

**Interdisciplinary Engineering Stream** {4194533}

**Nuclear Engineering and Energy Systems Stream**

**Nano- and Micro-Devices Stream** {4192125}

**Photonics Engineering Stream** {4193125}


**Interdisciplinary Engineering Stream** {4194123}

**Nuclear Engineering and Energy Systems Stream**

**Nano- and Micro-Devices Stream** {4192123}

**Photonics Engineering Stream** {4193123}

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. The Department of Engineering Physics offers a common core with four streams of study:
   - Interdisciplinary Engineering (I Stream)
   - Nano- and Micro-Devices (M Stream)
   - Nuclear Engineering and Energy Systems (N Stream)
   - Photonics Engineering (P Stream)
   Levels II and III are common to all streams in a five-level program. All students entering Level II will be enrolled in the Interdisciplinary Engineering Stream. Students entering Level IV choose one of the four streams offered in Engineering Physics.

2. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)

3. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   - **ENGINEER 1EEO, 2EEO, 3EEO and 4EEO, or**
   - **ENGINEER 1EEO, 2EEO and 4EEO, or**
   - **ENGINEER 1EEO and 4EEO, or**
   - **ENGINEER 1EEO and 4EEO**

**LEVEL II: 39 UNITS**

<table>
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<tr>
<th>Units</th>
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<tbody>
<tr>
<td>4</td>
<td>ENGINEER 2P04</td>
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<tr>
<td>15</td>
<td>ENG PHYS 2A04, 2E04, 2H04, 2QM3</td>
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<td>8</td>
<td>MATH 2P04, 2Q04</td>
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<tr>
<td>3</td>
<td>PHYSICS 2D03</td>
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**SOCIETY:**

<table>
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<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>6</td>
<td>ENGSOCY 2XO3, 2Y03</td>
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<td>3</td>
<td>Engineering and Society focus electives</td>
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**INTERNATIONAL STUDIES:**

<table>
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<tr>
<th>Units</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>9</td>
<td>ANTHROP 1A03, ENGSOCY 2X03, 2Y03</td>
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**LEVEL III: 34 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>10</td>
<td>ENG PHYS 2S03, 3F03, 3W04</td>
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<tr>
<td>9</td>
<td>MATH 3C03, 3D03, 4Q03</td>
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<tr>
<td>6</td>
<td>PHYSICS 3B03, 3B3</td>
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**SOCIETY:**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>6</td>
<td>ENGSOCY 3Y03</td>
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<tr>
<td>6</td>
<td>Engineering and Society focus electives</td>
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**INTERNATIONAL STUDIES:**

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<th>Units</th>
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<tr>
<td>3-6</td>
<td>from POL SCI 2A06, 2XX3, RELIG ST 1B06</td>
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<tr>
<td>3-6</td>
<td>International Studies focus electives</td>
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**LEVEL IV: 35 UNITS**

<table>
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<tr>
<th>Units</th>
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<tbody>
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<td>ENGINEER 4C03</td>
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<td>Stream specific:</td>
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<td>I Stream ENG PHYS 3D03, 3E03, 3PN4; 3 units from ENG PHYS 3A03, 3ES3, 3MD3</td>
</tr>
<tr>
<td></td>
<td>M Stream ENG PHYS 3E03, 3MD3, 3PN4; 3 units approved Level III or IV technical electives</td>
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<td></td>
<td>N Stream ENG PHYS 3D03, 3ES3, 3CO4; 3 units technical electives</td>
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<td></td>
<td>P Stream ENG PHYS 3A03, 3E03, 3G03, 3PN4</td>
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<td>ENGSOCY 3X03, 3Z03</td>
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<td>9</td>
<td>Engineering and Society focus electives</td>
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</table>
Materials Engineering - (B.Eng.) {4320}

Nanomaterials Stream (B.Eng.)

Materials Engineering Co-op - (B.Eng.) {4320003}

Nanomaterials Stream (B.Eng.)

LEVEL III: 36-37 UNITS
24 units MATLS 3B03, 3C04, 3E04, 3F03, 3M03, 3Q03, 3T04
3 units MATH 3I03
3 units STATS 3Y03
3-4 units from CHEM 2E03, CHEM ENG 3004, 3Q03, 4Z03, MATLS 4D03, 4P03
3 units approved complementary studies electives

LEVEL IV: 36-37 UNITS
3 units from ENGINEER 4A03, 4H03
6 units ENGINEER 4B03, 4J03
11 units MATLS 4A02, 4F03, 4J04, 4L02
4 units from MATLS 4K04, 4Z04
3 units from MATLS 4G03, 4H03
6-7 units approved Level III or IV technical electives which must include CHEM ENG 3004 if not completed
3 units approved complementary studies electives

Materials Engineering and Management (B.Eng.Mgt.) {4315325}

Materials Engineering and Management Co-op (B.Eng.Mgt.) {4315323}

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EA0

LEVEL II: 35 UNITS
2 units CHEM 2W2W
3 units COMMERCE 2MA3
6 units ECON 1BB3, 2X03
2 units ENGN MGT 2AA2
3 units ENGINEER 2MM3
6 units MATH 2M03, 2MM3
13 units MATLS 2B03, 2D03, 2H04, 2X03

LEVEL III: 38 UNITS
21 units MATLS 3B03, 3C04, 3E04, 3F03, 3M03, 3T04
3 units MATH 3I03
9-11 units from CHEM 2E03, CHEM ENG 3004, 3Q03, MATLS 3Q03, 4D03, 4P03
3 units approved complementary studies electives

LEVEL IV: (MATERIALS ENGINEERING STREAM) 36-37 UNITS
3 units from ENGINEER 4A03, 4H03
6 units ENGINEER 4B03, 4J03
8 units MATLS 4A02, 4J04, 4L02
4 units from MATLS 4K04, 4Z04
3 units STATS 3Y03
3 units approved complementary studies electives

LEVEL IV: (MATERIALS ENGINEERING STREAM) 36-37 UNITS
4 units CHEM ENG 3004
12 units COMMERCE 2AB3, 3BC3, 3FA3, 3MC3
3 units from ENGINEER 4A03, 4H03
1 unit ENGN MGT 4A01
10 units MATLS 3B03, 3E04, 3M03
3 units approved complementary studies electives
3-4 units approved Level III or IV technical electives

LEVEL V: (MATERIALS ENGINEERING STREAM) 36-37 UNITS
6 units COMMERCE 4PA3, 4QA3
3 units ENGINEER 4J03
3 units ENGN MGT 5B03
8 units MATLS 4A02, 4J04, 4L02
4 units from MATLS 4K04, 4Z04
8 units Commerce electives selected from Level III or IV Commerce
6-7 units approved technical electives
Materials Engineering and Management - Computational Materials Engineering Stream (B.Eng.Mgt.)

The Materials Engineering and Management-Computational Materials Engineering Stream has been cancelled. Students who intended to register in Level II of this program should consult the Department of Materials Science and Engineering regarding an alternate course of study.

Materials Engineering and Management - Nanomaterials Stream (B.Eng.Mgt.)

Materials Engineering and Management Co-op - Nanomaterials Stream (B.Eng.Mgt.)


The Materials Engineering and Society-Computational Materials Engineering Stream has been cancelled. Students who intended to register in Level II of this program should consult the Department of Materials Science and Engineering regarding an alternate course of study.

Materials Engineering and Society - Nanomaterials Stream (B.Eng.Society)

Materials Engineering and Society Co-op - Nanomaterials Stream (B.Eng.Society)

Material Engineering and Society Co-op - Computational Materials Engineering Stream (B.Eng.Society)

Faculty of Engineering
Mechanical Engineering (B.Eng.) \{4330\}

Mechanical Engineering Co-op (B.Eng.) \{4330003\}

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. Level I Mechanical Engineering students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

PROGRAM OPTION COMPULSORY COURSES:

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
- **MECHANICS AND DESIGN:** MECH ENG 4Q03; three of MATLS 4J04, 4T03, MECH ENG 4B03, 4BB3, 4CC3, 4E03, 4H03, 4T03, 4T03, 4Z03
- **MANUFACTURING:** MECH ENG 4Q03; three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4J04, 4T03, MECH ENG 4B03, 4D03, 4E03, 4H03, 4K03, 4T03, 4Z03
- **THERMOFLUIDS AND ENERGY SYSTEMS:** CHEM ENG 3D03, 4S03; two of CHEM ENG 4X03, CHEM ENG 4I03, 4J03, 4Q03, 4T03, 4U03
- **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4A03

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1E00, 2E00, 3E00 and 4E00, or ENGINEER 1E00 and 2E00 and 4E00, or ENGINEER 1E00 and 2E00 and 4E20, or ENGINEER 1E00 and 4E20, or ENGINEER 1E00 and 4E00

LEVEL II: 36 UNITS

6 units MATH 2M03, 2MM3
27 units MECH ENG 2B03, 2C03, 2D03, 2P04, 2Q04, 2W04, 3A03, 3C03
3 units Mechanical Engineering complementary studies elective

LEVEL III: 36 UNITS

6 units ENGINEER 2MM3, 3N03
3 units MATLS 3M03
3 units MATH 3I03
21 units MECH ENG 3E05, 3F04, 3M02, 3Q04, 3R03, 4R03
3 units STATS 3Y03

LEVEL IV: 35-36 UNITS

3 units ENGINEER 4B03
3 units from ENGINEER 4A03, 4H03
3 units approved complementary studies electives
11 units MECH ENG 4M05, 4P02, 4V03
15-16 units approved technical electives, including 13 units from required option courses. (See Note 1 above.)

Mechanical Engineering and Management (B.Eng.Mgt.) \{4330325\}

Mechanical Engineering and Management Co-op (B.Eng.Mgt.) \{4330323\}

ADMISSION
See Admission to Level II Engineering Programs.

NOTES
1. Level IV and Level V Mechanical Engineering and Management students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

PROGRAM OPTION COMPULSORY COURSES:

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
- **MECHANICS AND DESIGN:** MECH ENG 4Q03; three of MATLS 4J04, 4T03, MECH ENG 4B03, 4BB3, 4CC3, 4E03, 4H03, 4I03, 4K03, 4L03, 4T03, 4Z03
- **MANUFACTURING:** MECH ENG 4Q03; three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4J04, 4T03, MECH ENG 4B03, 4BB3, 4CC3, 4D03, 4E03, 4H03, 4K03, 4L03, 4T03, 4Z03
- **THERMOFLUIDS AND ENERGY SYSTEMS:** CHEM ENG 3D03, 4S03; two of CHEM ENG 4X03, MECH ENG 4I03, 4J03, 4Q03, 4T03, 4U03
- **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4A03

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1E00, 2E00, 3E00 and 4E00, or ENGINEER 1E00 and 2E00 and 4E00, or ENGINEER 1E00 and 2E00 and 4E20, or ENGINEER 1E00 and 4E20, or ENGINEER 1E00 and 4E00

LEVEL II: 37 UNITS

9 units COMMERCE 2A03, 2B03, 2MA3
8 units ECON 1B03, 2X03
6 units MATH 2M03, 2MM3
14 units MECH ENG 2D03, 2P04, 2W04, 3C03
2 units ENGN MGT 2AA2

LEVEL III: 37 UNITS

3 units COMMERCE 2FA3
1 unit ENGN MGT 3A01
3 units ENGINEER 2MM3
3 units MATH 3I03
24 units MECH ENG 2B03, 2C03, 2Q04, 3A03, 3F03, 3M03, 3R03
3 units STATS 3Y03

LEVEL IV: 35 UNITS

12 units COMMERCE 2A03, 2B03, 2BC3, 3F03, 3MC3
1 unit ENGN MGT 4A01
3 units MATLS 3M03
13 units MECH ENG 3E05, 3M02, 4R03, 4V03
6 units from required option courses or approved technical electives

LEVEL V: 35-36 UNITS

6 units COMMERCE 4A03, 4Q03
6 units COMMERCE electives selected from Level III or IV Commerce
3 units ENGN MGT 5B03
3 units from ENGINEER 4A03, 4H03
3 units approved complementary studies electives
8 units MECH ENG 4M06, 4P02
6-7 units from required option courses or approved technical electives. (See Note 1 above.)
Mechanical Engineering and Society (B.Eng.Society) \{4330535\}
Mechanical Engineering and Society Co-op (B.Eng.Society) \{4330533\}
Mechanical Engineering and International Studies (B.Eng.Society) \{4330125\}
Mechanical Engineering and International Studies Co-op (B.Eng.Society) \{4330123\}

**ADMISSION**

See Admission to Level II Engineering Programs.

**NOTES**

1. Level IV and Level V Mechanical Engineering and Society students must choose one of the following option areas and complete sufficient units of the listed required courses and technical electives.

**PROGRAM OPTION COMPULSORY COURSES:**

- **GENERAL:** two of MECH ENG 3D03, 4B03, 4E03, 4Q03, 4S03, 4Z03
- **MECHANICS AND DESIGN:** MECH ENG 4Q03, three of MATLS 4J04, 4T03, MECH ENG 4B03, 4BB3, 4CC3, 4E03, 4H03, 4I03, 4K03, 4L03, 4T03, 4Z03
- **MANUFACTURING:** MECH ENG 4Q03, three of CHEM ENG 4X03, ENGINEER 4J03, MATLS 4J04, 4T03, MECH ENG 4B03, 4D03, 4E03, 4H03, 4K03, 4T03, 4Z03
- **THERMOFLUIDS AND ENERGY SYSTEMS:** MECH ENG 3D03, 4S03; two of CHEM ENG 4X03, MECH ENG 4I03, 4J03, 4Q03, 4T03, 4U03
- **APPROVED TECHNICAL ELECTIVES:** any of the required courses listed above, plus CHEM ENG 4T03, CIV ENG 3K03, COMMERCE 4Q03

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   - ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
   - ENGINEER 1EE0, 2EE0 and 4EA0, or
   - ENGINEER 1EE0 and 4EB0, or
   - ENGINEER 1EE0 and 4EC0

3. A minimum of 18 units of focus elective courses is required for the program. (This does not include the six units of complementary studies elective in Level I.)

**LEVEL II: 33-36 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>MATH 2M03, 2MM3</td>
</tr>
<tr>
<td>18</td>
<td>MECH ENG 2D03, 2D03, 2P04, 2Q04, 2W04</td>
</tr>
<tr>
<td>3-6</td>
<td>ENGSOCTY 2X03, 2Y03</td>
</tr>
</tbody>
</table>

**SOCIETY:**

- 3-6 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- 9 units ANTHROP 1A03, ENGSOCTY 2X03, 2Y03

**LEVEL III: 32-35 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>3</td>
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</tr>
<tr>
<td>3</td>
<td>MATH 3I03</td>
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<tr>
<td>20</td>
<td>MECH ENG 2B03, 3A03, 3C03, 3F04, 3Q04, 3R03</td>
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</table>

**SOCIETY:**

- 3-6 units ENGSOCTY 3Y03
- 3-6 units Engineering and Society focus electives

**INTERNATIONAL STUDIES:**

- 3-6 units from POL SCI 2A06, 2X03, RELIG ST 1B06
- 3-6 units International Studies focus electives

**LEVEL IV: 34-37 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>3</td>
<td>ENGINEER 3N03</td>
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<tr>
<td>3</td>
<td>MATLS 3M03</td>
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<td>3</td>
<td>STATS 3Y03</td>
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<tr>
<td>13</td>
<td>MECH ENG 3E05, 3M02, 4R03, 4V03</td>
</tr>
<tr>
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<td>from required option courses or approved technical electives</td>
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**LEVEL V: 32-36 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
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<tbody>
<tr>
<td>3</td>
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<tr>
<td>8</td>
<td>MECH ENG 4M09, 4P02</td>
</tr>
<tr>
<td>12-13</td>
<td>from required option courses or approved technical electives (See Note 1 above.)</td>
</tr>
</tbody>
</table>

**INTERNATIONAL STUDIES:**

- 6 units ENGSOCTY 4X03, 4Z03
- 3-6 units Engineering and Society focus electives

**ADVANCED PROGRAM:**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>ENGSOCTY 4X03, 4Z03</td>
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</tbody>
</table>

**FACULTY OF ENGINEERING**

**Mechatronics Engineering (B.Eng.)** \{4332\}

**Mechatronics Engineering Co-op (B.Eng.)** \{4332003\}

**ADMISSION**

See Admission to Level II Engineering Programs.

**LEVEL II: 34 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
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<tr>
<td>6</td>
<td>MATH 2M03, 2MM3</td>
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<tr>
<td>6</td>
<td>SFWR ENG 2MX3, 2S03</td>
</tr>
<tr>
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<td>ENG PHYS 2A04, 2E04</td>
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<tr>
<td>7</td>
<td>MECH ENG 2B03, 2Q04</td>
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<tr>
<td>7</td>
<td>ENGINEER 2MM3, 2P04</td>
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**LEVEL III: 36 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tr>
<td>16</td>
<td>SFWR ENG 3DX3, 3F03, 3I03, 3K04, 3X03</td>
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<tr>
<td>8</td>
<td>MECHTRON 3TA4, 3TB4</td>
</tr>
<tr>
<td>3</td>
<td>SFWR ENG 3SH3</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 3K03, 3N03</td>
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<tr>
<td>3</td>
<td>STATS 3N03</td>
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**LEVEL IV: 36 UNITS (EFFECTIVE 2008-2009)**

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<td>MECHTRON 4TB6</td>
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<tr>
<td>6</td>
<td>MECH ENG 4B03, 4K03</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 4AA3, 4B03</td>
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<td>from list A (Contact the Department of Computing and Software.)</td>
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<tr>
<td>3</td>
<td>approved technical electives from list B (Contact the Department of Computing and Software.)</td>
</tr>
<tr>
<td>3</td>
<td>approved complementary studies electives</td>
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</table>

**Mechatronics Engineering and Management (B.Eng.Mgt.)** \{4332325\}

**Mechatronics Engineering and Management Co-op (B.Eng.)** \{4332323\}

**ADMISSION**

See Admission to Level II Engineering Programs.

**LEVEL II: 37 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>6</td>
<td>SFWR ENG 2MX3, 2S03</td>
</tr>
<tr>
<td>8</td>
<td>ENG PHYS 2A04, 2E04</td>
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<tr>
<td>7</td>
<td>MECH ENG 2B03, 2Q04</td>
</tr>
<tr>
<td>7</td>
<td>ENGINEER 2MM3, 2P04</td>
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<td>MECH ENG 2M03, 2MM3</td>
</tr>
<tr>
<td>3</td>
<td>COMMERCE 2MA3</td>
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</table>

**LEVEL III: 37 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>SFWR ENG 3DX3, 3F03, 3K04, 3SH3, 3X03</td>
</tr>
<tr>
<td>3</td>
<td>STATS 3Y03</td>
</tr>
<tr>
<td>3</td>
<td>ENG MGT 2AA2, 2AA1</td>
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<tr>
<td>6</td>
<td>ECON 1B03, 2X03</td>
</tr>
<tr>
<td>9</td>
<td>COMMERCE 2AA3, 2B03, 2FA3</td>
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</table>

**LEVEL IV: 39 UNITS**

<table>
<thead>
<tr>
<th>Units</th>
<th>Course</th>
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<tbody>
<tr>
<td>3</td>
<td>SFWR ENG 4AA3</td>
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<tr>
<td>8</td>
<td>MECHTRON 3TA4, 3TB4</td>
</tr>
<tr>
<td>3</td>
<td>MECH ENG 4H03</td>
</tr>
<tr>
<td>6</td>
<td>ENGINEER 3K03, 3N03</td>
</tr>
<tr>
<td>12</td>
<td>COMMERCE 2AB3, 2BC3, 2FA3, 3MC03</td>
</tr>
</tbody>
</table>
54 FACULTY OF ENGINEERING

Software Engineering (B.Eng.)  {4517}
Software Engineering Co-op (B.Eng.)  {4517003}

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0 and 4EE0, or
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EC0

LEVEL II: 34 UNITS
6 units ENGIN MGT 4A01
3 units approved technical electives from list A (Contact the Department of Computing and Software.)
3 units approved technical electives from list B (Contact the Department of Computing and Software.)

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EC0

LEVEL III: 35 UNITS
6 units MECHTRON 4TB6
3 units ENGINEER 4A03
3 units MECH ENG 4K03
6 units COMMERCE 4PA3, 4QA3
3 units ENGIN MGT 5B03
3 units approved complementary studies electives
6 units approved technical electives
6 units Commerce electives selected from List III or IV Commerce

Mechatronics Engineering and Society (B.Eng.Society)  {4332535}
Mechatronics Engineering and Society Co-op (B.Eng.Society)  {4332533}
Mechatronics Engineering and International Studies (B.Eng.Society)  {4332125}
Mechatronics Engineering and International Studies Co-op (B.Eng.Society)  {4332123}

ADMISSION
See Admission to Level II Engineering Programs.

LEVEL II: 37-40 UNITS
6 units SFWR ENG 2MX3, 2S03
8 units ENG PHYS 2A04, 2E04
7 units MECH ENG 2B03, 2Q04
7 units ENGINEER 2MM3, 2P04
6 units MATH 2M03, 2MM3

SOCIETY:
3 units ENGSOCTY 2X03

INTERNATIONAL STUDIES:
6 units ANTHROP 1A03, ENGSOCTY 2X03

LEVEL III: 34-37 UNITS
16 units SFWR ENG 3DX3, 3F03, 3K03, 3SH3, 3X03
3 units ENGINEER 3K03
3 units STATS 3Y03

SOCIETY:
6 units ENGSOCTY 2Y03, 3X03
6 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
3 units ENGSOCTY 2Y03
3 units STAT 3Y03
6-9 units International Studies focus electives

LEVEL IV: 32-38 UNITS
3 units SFWR ENG 4AA3
8 units SFWR ENG 4PA3, 4QA3
8 units MECHTRON 3TA4, 3TB4
6 units ENGINEER 4H03, 4K03
6 units ENGINEER 3N03, 4B03

SOCIETY:
6 units ENGSOCTY 3Y03, 3Z03
6-9 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
6 units ENGINEER 3PM3, ENGSOCTY 3X03
3 units International Studies focus electives

LEVEL V: 33-36 UNITS
6 units MECHTRON 4TB6
6 units approved technical electives from list A (Contact the Department of Computing and Software.)
6 units approved technical electives from list B (Contact the Department of Computing and Software.)

SOCIETY:
6 units ENGSOCTY 4X03, 4Z03
9-12 units Engineering and Society focus electives

INTERNATIONAL STUDIES:
6 units ENGINEER 4SC3, ENGSOCTY 4X03
9-12 units International Studies focus electives

Software Engineering (B.Eng.Mgt.)  {4517325}
Software Engineering and Management Co-op (B.Eng.Mgt.)  {4517323}

ADMISSION
See Admission to Level II Engineering Programs.

NOTE
As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:

- ENGINEER 1EE0, 2EE0 and 4EA0, or
- ENGINEER 1EE0, 2EE0, 3EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EE0, or
- ENGINEER 1EE0 and 4EC0

LEVEL II: 37 UNITS
6 units SFWR ENG 2AA3, 2A03
3 units ENGINEER 4A03
3 units ENGINEER 4B03
6 units SFWR ENG 4AA3, 4C03
24 units from SFWR ENG 4AA3, 4C03, 4D03, 4E03, 4G06, 4M03, 4003

LEVEL III: 38 UNITS
6 units SFWR ENG 3AA4, 3B03, 3A04, 3C03, 3F03, 3G03, 3103, 32R3, 3S03, 3X03

LEVEL IV: 37 UNITS
12 units SFWR ENG 4AA3, 4BB4, 4C03, 4D03, 4F03, 4J03, 4TE3
3 units approved complementary studies electives
3 units Commerce electives selected from Level III or IV Commerce

LEVEL V: 33 UNITS
6 units SFWR ENG 4PA3, 4QA3
3 units ENGINEER 4H03
3 units ENGINEER 4I03
15 units SFWR ENG 4C03, 4E03, 4G06, 4M03
3 units from SFWR ENG 4F03, 4J03, 4TE3
3 units Commerce electives selected from Level III or IV Commerce
Software Engineering and
Society (B.Eng.Society) {4517535}
Software Engineering and
Society Co-op (B.Eng.Society) {4517533}
Software Engineering and
International Studies (B.Eng.Society) {4517125}
Software Engineering and
International Studies Co-op (B.Eng.Society) {4517123}

ADMISSION

See Admission to Level II Engineering Programs.

NOTES

1. A minimum of 18 units of focus elective courses is required for the program. (This does not include the 6 units of complementary studies elective in Level I.)

2. As well as completing the academic requirements as specified in this Calendar, students in a Co-op program must complete the following courses prior to graduation:
   - Engineer 1E00, 2E00, 3E00, and 4E00, or
   - Engineer 1E00, 2E00, and 4E00, or
   - Engineer 1E00 and 4E00, or
   - Engineer 1E00 and 4E00.

LEVEL II: 37 UNITS

6 units MATH 2M03, 2MM3
22 units SFWR ENG 2AA4, 2C03, 2D03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03

SOCIETY:

6 units ENGSOCITY 2X03, 2Y03
3 units Engineering and Society focus electives

INTERNATIONAL STUDIES:

9 units ANTHROP 1A03, ENGSOCITY 2X03, 2Y03

LEVEL III: 35 UNITS

26 units SFWR ENG 3A04, 3BB4, 3DX3, 3F03, 3GA3, 3RA3, 3S03, 3X03

SOCIETY:

3 units ENGSOCITY 3Y03
6 units Engineering and Society focus electives

INTERNATIONAL STUDIES:

3-6 units POL SCI 2A06, 2XX3, RELIG ST 1B06
3-6 units International Studies focus electives

LEVEL IV: 33 UNITS

6 units ENGINEER 3K03, 4P03
6 units SFWR ENG 4AA3, 4M03
3 units STATS 3Y03
3 units approved technical electives

SOCIETY:

6 units ENGSOCITY 3X03, 3Z03
9 units Engineering and Society focus electives

INTERNATIONAL STUDIES:

6 units ENGINEER 3PM3, ENGSOCITY 3X03
9 units International Studies focus electives

LEVEL V: 36 UNITS

18 units SFWR ENG 4C03, 4D03, 4E03, 4G06, 4O03
6 units from SFWR ENG 4F03, 4J03, 4TE3

SOCIETY:

6 units ENGSOCITY 4X03, 4Z03
6 units Engineering and Society focus electives

INTERNATIONAL STUDIES:

6 units ENGINEER 4SC3, ENGSOCITY 4X03
6 units International Studies focus electives

Software Engineering and
Game Design (B.Eng.) {4518}

Software Engineering and
Game Design Co-op (B.Eng.) {4518003}

ADMISSION

See Admission to Level II Engineering Programs.

LEVEL II: 34 UNITS

6 units MATH 2M03, 2MM3
6 units SFWR ENG 2AAA, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03
22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03

LEVEL III: 38 UNITS

3 units MMEDIA 2HE3
3 units STATS 3Y03
32 units SFWR ENG 3A04, 3BB4, 3DX3, 3F03, 3GA3, 3GB3, 3GC3, 3RA3, 3S03, 3X03

LEVEL IV: 33 UNITS

6 units ENGINEER 4A03, 4B03
3 units MMEDIA 3E03
21 units SFWR ENG 3A04, 3C03, 4D03, 4GA3, 4GC3, 4GP6
3 units from SFWR ENG 4E03, 4F03, 4J03, 4M03, 4O03, 4TE3

Software Engineering and
Embedded Systems (B.Eng.) {4519}

Software Engineering and
Embedded Systems Co-op (B.Eng.) {4519003}

Subject to approval by the Ministry of Training, Colleges and Universities, beginning in the 2007-2008 academic year, a B.Eng. program in Software Engineering and Embedded Systems will be offered.

ADMISSION

See Admission to Level II Engineering Programs.

LEVEL II: 37 UNITS

22 units SFWR ENG 2AA4, 2C03, 2DA3, 2DM3, 2FA3, 2MX3, 2S03
6 units ENGINEER 2M03, 3N03
6 units MATH 2M03, 2MM3
3 units approved complementary studies electives

LEVEL III: 37 UNITS

8 units MECHTRON 3A04, 3TB4
25 units SFWR ENG 3A04, 3BB4, 3DX3, 3F03, 3GA3, 3RA3, 3S03, 3X03
3 units STATS 3Y03

LEVEL IV: 36 UNITS

15 units SFWR ENG 3A03, 4A03, 4C03, 4D03, 4M03
6 units MECHTRON 4TB6
6 units ENGINEER 3K03, 4A03, 4B03
6 units from SFWR ENG 4E03, 4F03, 4J03, 4O03, 4TE3

PROGRAMS FOR THE B.TECH. DEGREE

WEB ADDRESS: http://www.btech.mcmastermohawk.ca

Communications Research Laboratory (CRL), Room 112B
Ext. 27056

Executive Director
A.C. Heidbrecht/Ph.D., D.Sc., P.Eng.

Associate Director (Four-Year B.Tech. Programs)
I. Singh/B.Sc., M.Sc., Ph.D., F.C.I.C.

Business Administrator
B. Eftekhari

Program Administrator (Degree Completion Programs)
S.D. Verhage

Program Administrator (Four-Year B.Tech. Programs)
G. Ferracuti

The Bachelor of Technology (B.Tech.) programs provide a degree-level technological education that is distinct from that offered in Bachelor of Engineering programs. These programs are more oriented to applications in specific technologies, with less emphasis on broader mathematical and scientific foundations than a corresponding engineering program. Graduates will have considerably more breadth and depth in their area of technology than graduates of college technology diploma programs. For degree completion programs, a second objective is to provide a path for college diploma graduates to gain an education leading to a university degree.
The programs are being offered in two specific configurations: Four-year programs with entry directly from high school leading to both a B.Tech. degree from Mohawk College and a Bachelor of Technology degree from McMaster. The programs are:

- Process Automation Technology
- Automotive and Vehicle Technology (Not offered in 2007-2008)
- Biotechnology (Not offered in 2007-2008)

Two-year degree-completion programs for graduates of the Mohawk College three-year Diploma in Technology program (or graduates of similar programs at other Colleges) leading to a Bachelor of Technology degree from McMaster. The programs are:

- Civil Engineering Infrastructure Technology
- Computing and Information Technology
- Manufacturing Engineering Technology

BREADTH OF LEARNING

B.Tech. graduates will be functioning in an evolving world in which they will play an important role as “evolvers” or change agents. This means that their education cannot be just narrowly focused on technical and management topics but must also enable them to develop important complementary skills, including human relations skills. The four-year B.Tech. program has an eight-course “breadth of learning” component which is designed to develop those skills in the context of broadening their knowledge of the economic, social, political, environmental, cultural and ethical dimensions of the society in which they will live and work.

MANAGEMENT STUDIES

All programs include a seven-course management studies component designed to develop management skills in a technology context. These courses (e.g. financial systems, human behavior, entrepreneurship, project management and formulating technology strategy) provide graduates with necessary skills for the development of their professional careers and provide employers with highly skilled graduates possessing a blend of technological and managerial capabilities required by business in order to strengthen competitiveness.

CO-OPERATIVE EDUCATION

Co-op placements are a mandatory component of all B.Tech. degree programs; co-op placements provide explicit experiential learning which is related to the technologically-oriented careers for which students are being prepared. Testing and enhancing their skills through a co-operative education experience is important in enabling graduates to function effectively in an industrial environment. The co-op component is administered by Engineering Co-Op and Career Services.

FOUR-YEAR B.TECH. PROGRAMS

ACADEMIC REGULATIONS FOR FOUR-YEAR B.TECH. PROGRAMS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

Students enrolled in a four-year program for the B.Tech. degree, in addition to meeting the General Academic Regulations of the University, shall be subject to the following regulations.

MINIMUM REQUIREMENTS TO CONTINUE IN A PROGRAM BEYOND LEVEL I

In Level II and above, the student must maintain a Cumulative Average (CA) of at least 3.5 with no failures to continue in the B.Tech. program. If the student’s CA is at least 3.5 and includes one failure since the last review, the student will be placed on program probation. The student will be expected to complete the Level at a Sessional Average of 3.5 with no failures. If the student’s CA is less than 3.5, the student may not continue at the University.

SEQUENCE OF COURSES

Courses must be taken in the sequence specified in the requirements for the program as outlined in this Calendar. Students must register for all outstanding work of one level before attempting work for a higher level.

REPEATED COURSES

All failed courses must be repeated if they are required courses for the B.Tech. program or may be replaced if the courses are not explicitly required.

LEVEL OF REGISTRATION

A student is required to register in the lowest level for which more than six units of work are incomplete. Work of a higher level may be undertaken only with the permission of the Associate Director (Four-Year Bachelor of Technology Programs).

MINIMUM WORK LOAD

The minimum workload for students registered in Level I of the Bachelor of Technology program is 36 units. The workload for students registered above Level I will range from 33 to 36 units per year and is specified within each academic program.

REINSTATEMENT

A student who is ineligible to continue in a Bachelor of Technology program (May not continue at university) may normally not apply for reinstatement for one full academic year. Exceptions may be made where there are extenuating circumstances that are supported by documentation.

Students seeking reinstatement must complete the Reinstatement Request Form available at the Office of the Registrar or the Bachelor of Technology Program Office. The completed form and the $50 fee must be submitted to the Office of the Registrar by June 30. The form must be accompanied by a written explanation of the reason for the student’s previous unsatisfactory academic performance, reasons for reinstatement at this time (including documentation of what has been done to correct previous academic problems), reasons why the student would expect to succeed in the desired program if reinstated (i.e. what was the previous problem and what has been done to correct it), activities since last registered at McMaster including all academic work. Two letters of reference are also required. Reinstatement is not guaranteed.

A student who is reinstated after being ineligible to continue at a given level must repeat all courses of that level, unless specific course exemptions are granted explicitly in the letter of reinstatement. Students who are reinstated will be placed on program probation, and calculation of their Cumulative Average will begin anew. If at any review after reinstatement the student’s Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

TRANSFERS FROM ENGINEERING

Students who have successfully completed all courses in Engineering I with a CA of at least 3.5 can apply to transfer directly to Level II of any of the Four-Year Bachelor of Technology Programs. Depending upon the complementary studies electives taken in Engineering I and the Bachelor of Technology program to which they are transferring, students will be given credit for most of the Technology I program. Students who anticipate making such a transfer should consult with the Associate Director (Four-Year Bachelor of Technology Programs) at the earliest possible opportunity. Applications for transfer must be submitted to the Associate Director (Four-Year Bachelor of Technology Programs) no later than June 15.

REQUIREMENTS FOR MORE MOWAH DIPLoma

Students registered in the Four-Year Bachelor of Technology Program may elect to leave the Program upon the successful completion of Level III. Students will be awarded a Mohawk College diploma.

LEVEL I PROGRAM (NOT OFFERED IN 2007-2008)

WEB ADDRESS:  http://www.btech.mcmaster.mohawk.ca

NOTE

The Level I requirements for specific Level II B.Tech. programs are as follows:

- Automotive and Vehicle Technology:  ENG TECH 1ME3, 1PR3
- Biotechnology:  ENG TECH 1AC3, 1B13
- Process Automation Technology:  ENG TECH 1AC3, 1PR3

TECHNOLOGY I:  36 UNITS  (0731)

18 units  ENG TECH 1CH3, 1CP3, 1EL3, 1MC3, 1MT3, 1PH3
12 units  GEN TECH 1CS3, 1FS3, 1MB3, 1T13
6 units  from ENG TECH 1AC3, 1B13, 1ME3, 1PR3 (See Note above.)
1 course  ENG TECH 1A00
PROGRAMS FOR THE FOUR-YEAR B. TECH. DEGREE

ADMISSION TO LEVEL II

To be admitted to a Level II B.Tech. program, students must have completed all non-elective B.Tech. courses with a minimum Cumulative Average (CA) of 3.5.

NOTE

Co-Op Education: Students in the Four-Year Bachelor of Technology programs will be required to complete 12 months of co-op experience prior to graduation. The 12 months of co-op experience may be acquired through a combination of three four-month experience terms.

As well as completing the academic requirements as specified in this Calendar, students in co-op must also complete the following courses prior to graduation:

- ENG TECH 1EE0 Introduction to the Technology Co-Op Program
- ENG TECH 2EE0 Four Month Co-Op Experience I
- ENG TECH 3EE0 Four Month Co-Op Experience II
- ENG TECH 4EE0 Four Month Co-Op Experience III

ENG TECH 1EE0 must be taken in the first year of the program.

Depending upon the manner in which the co-op placements are organized, two of the four-month co-op experience courses may be taken in sequential calendar terms.

Automotive and Vehicle Technology (B.Tech) {4031}

(NOT OFFERED IN 2007-2008)

ADMISSION

Completion of Technology I including ENG TECH 1ME3 and 1PR3.

LEVEL II: 36 UNITS

- 15 units AUTOTECH 2AC3, 2AE3, 2CD3, 2MT3, 2TS3
- 12 units GEN TECH 2MA3, 2MT3, 3MN3, 3ST3
- 9 units GEN TECH 2EN3, 2TC3, 2TE3

LEVEL III: 36 UNITS

- 21 units AUTOTECH 3AE3, 3AV3, 3CT3, 3MP3, 3MV3, 3TS3, 3VD3
- 3 units ENG TECH 3FE3
- 12 units GEN TECH 2TL3, 2TM3, 3PM3, 3SF3

LEVEL IV: 33 UNITS

- 21 units AUTOTECH 4AE3, 4AT3, 4C13, 4DV3, 4EC3, 4MS3, 4TP3
- 9 units GEN TECH 2TP3, 3TL3, 4SS3
- 3 units from GEN TECH 1DM3, 1EE3, 1HR3, 2IS3, 4LM3, 4ST3

Biotechnology (B.Tech) {4054}

(NOT OFFERED IN 2007-2008)

ADMISSION

Completion of Technology I including ENG TECH 1AC3 and 1B13.

LEVEL II: 33 UNITS

- 21 units BIOTECH 2BC3, 2BE3, 2BT3, 2CB3, 2GT3, 2MB3, 2OC3
- 3 units ENG TECH 2MA3
- 9 units GEN TECH 2EN3, 2TC3, 2TE3

LEVEL III: 36 UNITS

- 21 units BIOTECH 3BP3, 3EC3, 3FM3, 3FR3, 3V3, 3MB3, 3PM3
- 3 units ENG TECH 3ST3
- 12 units GEN TECH 2TL3, 2TM3, 3PM3, 3SF3

LEVEL IV: 33 UNITS

- 21 units BIOTECH 4BL3, 4BL3, 4BM3, 4BS3, 4GP3, 4TB3, 4TR3
- 9 units GEN TECH 2TP3, 3TL3, 4SS3
- 3 units from GEN TECH 1DM3, 1EE3, 1HR3, 2IS3, 4LM3, 4ST3

Process Automation Technology (B.Tech) {4459}

(OFFERED IN 2007-2008)

ADMISSION

Completion of Technology I including ENG TECH 1AC3 and 1PR3.

LEVEL II: 35 UNITS

- 21 units PROCTECH 2CA3, 2CE3, 2EC3, 2EE3, 2IO3, 2IC3, 2PL3
- 6 units ENG TECH 2MA3, 2MT3
- 9 units GEN TECH 2EN3, 2TC3, 2TE3

LEVEL III: 36 UNITS

- 18 units PROCTECH 3CE3, 3CT3, 3MC3, 3PL3, 3SC3, 3SD3
- 3 units ENG TECH 3MN3, 3ST3
- 12 units GEN TECH 2TL3, 2TM3, 3PM3, 3SF3

LEVEL IV: 36 UNITS

- 24 units PROCTECH 4AS3, 4CT3, 4IC3, 4IT3, 4MS3, 4MT3, 4SS3, 4TR3
- 9 units GEN TECH 2TP3, 3TL3, 4SS3
- 3 units from GEN TECH 1DM3, 1EE3, 1HR3, 2IS3, 4LM3, 4ST3

DEGREE COMPLETION B.TECH. PROGRAMS

ACADEMIC REGULATIONS FOR DEGREE COMPLETION B.TECH. PROGRAMS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

Students enrolled in a degree-completion program for the B.Tech. degree, in addition to meeting the General Academic Regulations of the University, shall be subject to the following regulations.

ADVANCED STANDING

Advance standing may be considered at the time of admission. However a minimum of 51 units of work must be completed at McMaster University in order to obtain a Bachelor of Technology degree.

SEQUENCE OF COURSES

Students in the degree completion program may register in any courses in the program for which they have achieved the specified prerequisite requirements.

REPEATED COURSES

All failed courses must be repeated if they are required courses for the B.Tech. program or may be replaced if the courses are not explicitly required.

LEVEL OF REGISTRATION

A student is required to register in the lowest level for which more than six units of work is incomplete. Work of a higher level may be undertaken only with the permission of the Associate Director of the Bachelor of Technology Program.

MINIMUM WORK LOAD

Students may elect to register in the program full-time or part-time. Students wishing to study full-time evenings may register in up to 18 units (six courses) per academic term. Students working full-time should not attempt more than two or three courses per academic term. Part-time students have up to seven years to complete the program in its entirety. The minimum number of units that may be taken in one academic term is three units (one course).

REINSTATEMENT

A student who is ineligible to continue in a Bachelor of Technology program (May not continue at university) may normally not apply for reinstatement for one full academic year. Exceptions may be made where there are extenuating circumstances that are supported by documentation.

Students seeking reinstatement must complete the Reinstatement Request Form available at the Office of the Registrar or the Bachelor of Technology Program Office. The completed form and the $50 fee must be submitted to the Office of the Registrar by June 30. The form must be accompanied by a written explanation of the reason for the student's previous unsatisfactory academic performance, reasons for reinstatement at this time (including documentation of what has been done to correct previous academic problems), reasons why the student would expect to succeed in the desired program if reinstated (i.e. what was the previous problem and what has been done to correct it), activities since last registered at McMaster including all academic work. Two letters of reference are also required. Reinstatement is not guaranteed.
A student who is reinstated after being ineligible to continue at a given level must repeat all courses of that level, unless specific course exemptions are granted explicitly in the letter of reinstatement. Students who are reinstated will be placed on program probation, and calculation of their Cumulative Average will begin anew. If at any review after reinstatement the student's Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

**PROGRAMS FOR THE DEGREE COMPLETION B.TECH.**

**ADMISSION TO DEGREE COMPLETION PROGRAMS**
The minimum academic requirement for admission to a Bachelor of Technology degree completion program is successful completion of a three-year technology, diploma or equivalent.

The degree completion programs will accept students with diplomas in related technology from Mohawk College or similar diploma programs at other Ontario Colleges; post-diploma experience would be an asset. Applicants with educational background equivalent to those completing Ontario college diplomas, i.e. overseas technology diploma or degree graduates are encouraged to apply; such applications will be considered on an individual basis.

**NOTE**

Co-Op Education: Students in the degree completion Bachelor of Technology programs who initially registered in a program in September 2006 or later will be required to complete eight months of co-op experience prior to graduation. The eight months of co-op experience may be acquired through a combination of two four-month experience terms. These co-op placement terms will be waived for diploma graduates whose programs are operated on a co-op basis (which would be the case for Mohawk College diploma graduates) and for diploma graduates who have achieved significant work experience in a related field.

As well as completing the academic requirements as specified in this Calendar, students in co-op must also complete the following courses prior to graduation:

- ENG TECH 1ET0, Introduction to the Technology Co-Op Program
- ENG TECH 2ET0, Four Month Co-Op Experience I
- ENG TECH 3ET0, Four Month Co-Op Experience II
- ENG TECH 1ET0 must be completed at least one academic term prior to the term in which the first co-op placement is taken.

**Civil Engineering Infrastructure (4122)**

**Technology (B.Tech.)**

**ADMISSION**

Admission requires satisfactory completion of a three-year Mohawk College Civil Engineering Technology or a three-year Mohawk College Architectural Technology diploma (or equivalent); applicants with equivalent credentials are encouraged to apply.

**NOTES**

1. Architectural Technology graduates must complete CIV TECH 3FM3, 3GE3 and three units from the Infrastructure Electives Course List. Civil Engineering Technology diploma graduates must select nine units from the Infrastructure Electives Course List.
2. Architectural Technology graduates must complete CIV TECH 4MH3 and nine units from the Infrastructure Electives Course List. Civil Engineering Technology diploma graduates must select 12 units from the Infrastructure Electives Course List.

**INFRASTRUCTURE ELECTIVES COURSE LIST**

CIV TECH 3FB3, 3CS3, 3FR3, 3LU3, 3ND3, 3PM3, 3RM3, 3TP3, 3UM3, 3VT3

**LEVEL III: 36 UNITS**

| 6 units | ENG TECH 3MA3, 3ML3 |
| 15 units | GEN TECH 1FS3, 1HR3, 1OB3, 2EN3, 3PM3 |
| 6 units | CIV TECH 3GT3, 3SA3 |
| 9 units | six units from CIV TECH 3FM3, 3GE3 and three units from Infrastructure Electives Course List (See Note 1 above.) or nine units from Infrastructure Electives Course List (See Note 1 above.). |
| 1 course | ENG TECH 1AO0 |

**LEVEL IV: 30 UNITS**

| 3 units | ENG TECH 3MN3 |
| 9 units | CIV TECH 4E13, 4ES3, 4SD3 |
| 12 units | three units from CIV TECH 4MH3 and nine units from Infrastructure Electives Course List (See Note 2 above.) or 12 units from Infrastructure Electives Course List (See Note 2 above.). |
| 3 units | GEN TECH 3SF3 |
| 3 units | from GEN TECH 1DM3, 1EE3, 2IS3, 4ST3 |

**Computing and Information Technology (B.Tech.)**

**ADMISSION**

Admission requires satisfactory completion of a three-year Mohawk College diploma in one of Software Engineering, Networking Engineering, Security Analyst or Computer Engineering (or equivalent); applicants with equivalent credentials are encouraged to apply.

**NOTES**

1. Software Engineering diploma graduates must complete COMPTECH 3IT3 and 3NT3.
2. Network Engineering Security Analyst diploma graduates must complete COMPTECH 3PD3 and 3PR3.

**LEVEL III: 36 UNITS**

| 6 units | from COMPTECH 3IT3, 3NT3, 3PD3, 3PR3 (See Notes 1 and 2 above.) |
| 15 units | COMPTECH 3DS3, 3ET3, 3IA3, 3IN3, 3RQ3 |
| 6 units | ENG TECH 3DM3, 3ST3 |
| 9 units | GEN TECH 1FS3, 1OB3, 2EN3 |
| 1 course | ENG TECH 1AO0 |

**LEVEL IV: 36 UNITS**

| 21 units | from COMPTECH 4AP3, 4ES3, 4FD3, 4IN3, 4SD3, 4TM3, 4TR3 |
| 3 units | from COMPTECH 4CC3, 4DM3 |
| 3 units | GEN TECH 2IS3, 3PM3, 3SF3 |
| 3 units | from GEN TECH 1DM3, 1EE3, 1HR3, 2IS3, 4ST3 |

**Manufacturing Engineering (4319)**

**Technology (B.Tech.)**

(Requirements for students who entered in September 2006 and later)

**ADMISSION**

Admission requires satisfactory completion of a three-year Mohawk College Mechanical Engineering Technology (or equivalent); applicants with equivalent credentials are encouraged to apply.

**LEVEL III: 36 UNITS**

| 18 units | ENG TECH 1CP3, 3CT3, 3FE3, 3MA3, 3ML3, 3MN3 |
| 9 units | MAN TECH 3CD3, 3MD3, 3ST3 |
| 9 units | GEN TECH 1FS3, 1OB3, 2EN3 |
| 1 course | ENG TECH 1AO0 |

**LEVEL IV: 36 UNITS**

| 24 units | MAN TECH 4FB3, 4FM3, 4FT3, 4ID3, 4MC3, 4MT3, 4ST3, 4TF3 |
| 9 units | GEN TECH 3PM3, 3SF3, 4LM3 |
| 3 units | from GEN TECH 1DM3, 1EE3, 1HR3, 2IS3, 4SS3, 4ST3 |

**Manufacturing Engineering (4317)**

**Technology (B.Tech.)**

(Requirements for students who entered prior to September 2006)

This program is currently being phased out. Registration in Level II will be last available in September 2007. All new applicants should apply to Manufacturing Engineering Technology (4319) as specified above.

**LEVEL II: 18 UNITS**

| 9 units | ENG TECH 3CT3, 3FE3, 3MN3 |
| 9 units | MAN TECH 3MD3, 4MT3, 4TF3 |

**LEVEL III: 15 UNITS**

| 9 units | MAN TECH 4FB3, 4FM3, 4FT3 |
| 6 units | MAN TECH 4MC3, 4ST3 |
Dean and Vice-President
J. G. Kelton/M.D., F.R.C.P. (C.)

Associate Dean Research
S. Collins/M.B.B.S., F.R.C.P.(UK), F.R.C.P.C.

Associate Vice-President Academic and Associate Dean Education
S.D. Denburg/B.A., M.A., Ph.D.

Associate Dean (Nursing)
C. Tompkins/B.Sc.N., M.Ed., Ph.D., R.N.

Associate Dean (Rehabilitation Science)
Mary Law/B.Sc.OT, M.Sc., Ph.D., O.T. Reg (Ont)

Office of the Registrar
McMaster University
Gilmour Hall, Room 108
Hamilton, Ontario, L8S 4L8
Telephone (905) 525-4600

OVERVIEW
The concept of Health Sciences Education is based on the view that health is a broad subject encompassing both the problems of ill health and the impact of biology, environment and lifestyle on health.

Each health professional has specific educational requirements, but by learning together in shared facilities there exists an opportunity to establish effective interprofessional working relationships.

The programs in the Faculty attempt to meet these goals through a variety of learning approaches. Emphasis is placed on problem-based, small group learning experiences. Other approaches to learning, including interdisciplinary educational experiences, are used where appropriate.

In July 1974, the School of Nursing and the School of Medicine were brought together to form the Faculty of Health Sciences. In 1989, the School of Occupational Therapy and Physiotherapy (School of Rehabilitation Science) was added and in 1983 the Midwifery Education Program was established. The Faculty offers the following undergraduate degree programs: Doctor of Medicine (MD), Bachelor of Science in Nursing (B.Sc.N.), Bachelor of Health Sciences (Honours) (B.H.Sc. Honours), Bachelor of Health Science (B.H.Sc.) in Midwifery. In addition to its undergraduate programs, the Faculty of Health Sciences also has responsibility for Residency Programs in Postgraduate Medical Education.

Through the School of Graduate Studies, the Faculty offers the Medical Sciences program leading to the M.Sc. and Ph.D. degrees in the following research areas: Cell Biology and Metabolism; Hemostasis, Thromboembolism, Atherosclerosis; Molecular Virology and Immunology; Neuroscience and Behavioural Sciences; Physiology/Pharmacology; and Reproductive Biology and Human Genetics. M.Sc. and Ph.D. programs in Clinical Health Sciences (Health Research Methodology) and Clinical Health Sciences (Nursing) are available through Medical Sciences. A professional master's degree program in Rehabilitation Science (Occupational Therapy and Physiotherapy) has been established and replaces the respective baccalaureate-level professional programs.

Interprofessional programs, postprofessional in nature and leading to an academic diploma, include: Child Life Studies; Clinical Behavioural Sciences; Environmental Health; and Occupational Health and Safety.

The Faculty of Health Sciences collaborates with the Division of Health Sciences at Mohawk College in educational programs for other health professions based at the College.

Research programs encompassing the broad spectrum of health have been established, including basic and applied research and various aspects of health-care delivery. The graduate programs in medical sciences are related to the various areas of health research.

The Health Sciences Centre at McMaster provides educational and research facilities for medicine, nursing and other health professions. It includes a teaching hospital (the McMaster Site of Hamilton Health Sciences) with extensive ambulatory clinics for primary and specialized aspects of patient care. The building has been designed to bring into close proximity the programs for the various health professions and to integrate the facilities for education, research and patient care in the Faculty of Health Sciences.

In addition to the Health Sciences Centre, education, research and clinical programs are based at other Hamilton Health Sciences sites (Chedoke, General, Henderson), St. Joseph's Centre for Mountain Health Services, St. Joseph's Hospital, St. Peter's Hospital, Hamilton Regional Cancer Centre and the Health Sciences Education Centre, Mohawk College. Extensive use is made of a variety of community agencies. A satellite program has been developed with institutions in Northwestern Ontario. In accordance with the plan to coordinate the development of specialized health services among the Hamilton and District hospitals, the Postgraduate Education programs in medicine have been developed on a regional basis.

UNDERGRADUATE HEALTH PROFESSIONAL EDUCATION PROGRAMS

ADMISSION AND REGISTRATION
Application to any program in the Faculty of Health Sciences implies acceptance on the part of the applicant of the admission policies and procedures, and the methods by which applicants are chosen for the Health Sciences programs.

Registration in any program in the Faculty of Health Sciences implies acceptance on the part of the student of the objectives of that program and the methods by which progress toward the achievement of those objectives is evaluated.

The following describes the regulations governing admission and registration in the Health Sciences programs, and should be considered in conjunction with specific admission requirements described on the following pages for the Bachelor of Health Sciences (Honours) program (B.H.Sc. Honours), School of Medicine (MD), the Midwifery program (B.H.Sc.), the School of Nursing (B.Sc.N.).

The following application deadlines are strictly enforced. Deadline dates are for consideration of admission to a program in the following September.

<table>
<thead>
<tr>
<th>Program</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor of Health Sciences (Honours)</td>
<td>February 10</td>
</tr>
<tr>
<td>Medicine (MD)</td>
<td>October 2</td>
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<tr>
<td>Registration with OMSAS</td>
<td>September 15</td>
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<tr>
<td>Final application deadline</td>
<td>February 1</td>
</tr>
<tr>
<td>Midwifery (B.H.Sc.)</td>
<td>February 1</td>
</tr>
<tr>
<td>Nursing (B.Sc.N.)</td>
<td>March 1</td>
</tr>
<tr>
<td>Applicants directly from Ontario Secondary Schools</td>
<td>May 1</td>
</tr>
<tr>
<td>Diploma Registered Nurses</td>
<td>February 15</td>
</tr>
<tr>
<td>Post Diploma Practical Nurses</td>
<td>February 15</td>
</tr>
<tr>
<td>Nurse Practitioner Certificate</td>
<td></td>
</tr>
<tr>
<td>Applicants with Other Qualifications</td>
<td>February 15</td>
</tr>
<tr>
<td>Transfers from other degree Nursing programs</td>
<td></td>
</tr>
<tr>
<td>McMaster Site</td>
<td>June 30</td>
</tr>
<tr>
<td>Mohawk and Conestoga Site</td>
<td>May 15</td>
</tr>
<tr>
<td>Child Life Studies Diploma Program</td>
<td>March 1</td>
</tr>
<tr>
<td>Diploma Program in Clinical Behavioural Sciences</td>
<td>August 1</td>
</tr>
</tbody>
</table>

The University reserves the right to change the admission requirements at any time without notice.

As places in the degree programs of the Faculty of Health Sciences are limited, admission is by selection, and possession of published minimum requirements does not guarantee admission. The University, therefore, reserves the right to grant admission to a limited number of students, and to refuse readmission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the program for a period in excess of one academic year.

An evaluation of Unsatisfactory in the School of Medicine signifies that the student has failed to meet these objectives and the University may require the student to withdraw from the School at any time.

The University reserves the right to require the withdrawal of a student should his or her conduct so warrant.
FALSIFICATION OF ADMISSION INFORMATION
An applicant supplying documentation or evidence which, at the time, or subsequently, is found to be falsified will be withdrawn from consideration. Any student admitted to the program having submitted false evidence will be withdrawn.

HEALTH REGULATIONS FOR ADMISSION
Before registration, students must file with the University evidence of a recent health examination, immunization screening and chest X-ray. More detailed medical information will be required upon acceptance into the program.

CLINICAL COURSE REQUIREMENTS
Where the performance of the student in clinical practice may jeopardize or endanger the welfare of the patient or the patient’s family, the student may be removed from clinical experience any time during the academic year, until continuation in the course is reviewed.

INFORMATION AND ACADEMIC COUNSELLING
In certain programs, a faculty member is selected for each student in the September of entry to a degree program and provides each student with advice on evaluations, electives and other educational needs throughout the program. In the MD program, the advisor is also responsible for the collation of all evaluations and completion of the final transcript. Changes in advisors may be entertained as each student becomes acquainted with Faculty well enough to choose his or her own advisor. The academic advisory role for B.Sc.N. students is fulfilled by the Coordinator of Studies (Nursing). Students are also encouraged to consult individual faculty members regarding career planning.

TRANSPORTATION
Students are responsible for expenses involved in transporting themselves to community agencies, making home visits, or in connection with clinical study.

LICENSE TO PRACTICE
All graduates who wish to engage in clinical practice in any of medicine, midwifery, nursing, occupations therapy and physical therapy are subject to any licensing examinations and other requirements by the licensing bodies for each of these professions. In addition students should be aware that a licence may be denied if they have been convicted of a criminal offence for which a pardon has not been granted. A student in such a position should consult the respective licensing body about such a situation.

POST-PROFESSIONAL HEALTH SCIENCES EDUCATION PROGRAMS

CHILD LIFE STUDIES FULL-TIME DIPLOMA PROGRAM
This is an eight-month applied professional program in the Faculty of Health Sciences, focusing on the development of knowledge and skills for individuals working with infants, children, youth and families in a health care setting and community based programs. The learning objectives are:

1. to examine and review the growth and development of infants, children and youth, incorporating communication, play, expression of feelings, discovery and mastery of the environment, behaviour management, and parent/child relationships, and
2. to examine the child life role in assessment, intervention, prevention, advocacy and documentation in situations critical to the child’s development, at times of acute and chronic illness and potentially traumatic or life-changing events.

Coursework involves small group learning, case studies and self-directed learning. Two eight-week internship placements in children’s hospitals and community settings are a requirement of this program.

A related university degree with an overall B average is required, as well as relevant experience. Admission is based on the assessment of prior education or experience as determined by the application package and interviews. Applications must be submitted by March 1 of each year for the study period beginning in September. Information outlining application requirements can be obtained by contacting the Child Life Studies program office at (905) 525-9140, ext. 22795 or by email at Humphre@mcmaster.ca or at http://www.fhs.mcmaster.ca/childlife.

DIPLOMA PROGRAM IN CLINICAL BEHAVIOURAL SCIENCES
The Clinical Behavioural Sciences (CBS) Post-Baccalaureate Diploma and Selected Studies Program is offered through the Faculty of Health Sciences, School of Occupational Health and Behavioural Sciences. The CBS part-time program is designed to expand the knowledge and skills of allied health professionals by demonstrating a variety of approaches to understanding clinical problems. The aim is to enable health workers to more effectively carry out the mandate of their professional designations. Single courses vary from 10 to 20 weeks in length, with two to four credit hours granted.

Applications must have basic professional qualifications (degree, certificate or mandate in current job); employment (possibly including volunteer positions); leave from employers to attend classes; and approval to use course-related material from the work setting (with signing of University legal waiver). Courses must be applicable to job responsibilities. Applications must be submitted to the CBS Office (Health Sciences Centre, Room 2E12) by August 1 for Fall courses and by December 1 for Winter and Spring courses. Personal interviews will be arranged if required. Upon completion of this diploma, students may be granted up to 24 units of credit towards an undergraduate degree.

Applications, a Transcript Assessment Fee, original transcripts and a letter of interest must be submitted by the end of March each year for the Fall course beginning in September. Applications can be obtained by contacting the CBS Office at (905) 525-9140, ext 22706.

DIPLOMA PROGRAM IN ENVIRONMENTAL HEALTH
The diploma program is a distance education program offered through the McMaster Institute of Environment and Health. Students are required to register on a full-time basis from September to April committing one day a week for self-directed learning, one hour per week for on-line tutorials and one day a week for completion of assigned work. The program is designed to provide new and/or upgraded skills and knowledge in the environmental health area to individuals with a degree or certification in a recognized field. It is suitable for environmental health officers, occupational health professionals, community health nurses, environmental industrial professionals and those in labour and non-governmental organizations dealing with environmental health issues. Participants must be sufficiently motivated to undertake self-directed learning.

Students come from a variety of disciplinary backgrounds. A relevant university degree or equivalent is required.

Admission is based on the number of places available and on the experience of applicants. Those without environmental health experience will also be considered.

Applications, a Transcript Assessment Fee, original transcripts and a letter of interest must be submitted by the end of June for the Fall course beginning in September. Applications can be obtained by contacting the McMaster Institute of Environment and Health at (905) 525-9140, ext 27559. Applicants will be notified of admissions decisions in July. Further information is available on our web site (http://www.mcmaster.ca/mieh).

DIPLOMA PROGRAM IN OCCUPATIONAL HEALTH AND SAFETY
The Program in Occupational Health and Environmental Medicine offers a diploma program designed to provide basic instruction in the principles of occupational health and safety. Students can enrol in the program on a full-time or a part-time basis. The full-time program starts in September catering to those who wish to complete the course in three months. The part-time program is designed for students within commuting distance from Hamilton wishing to continue their normal employment while enrolled in the program. The part-time program also begins in September and continues through to the end of April, one day per week, but includes two extended periods of full-time study each lasting two weeks.

While special consideration will be given to those already in the occupational health field, interested individuals without such experience are also invited to apply. Relevant university degree or equivalent is generally required.

Applications must be submitted by March 1 each year for the course beginning in September. Applications can be obtained by contacting the Program in Occupational Health and Environmental Medicine at (905) 525-9140, ext. 22233 or email Jean Bodnar at bodnaj@mcmaster.ca. Further information can be obtained on our web site (http://www.mcmaster.ca/ohem).
THE BACHELOR OF HEALTH SCIENCES (HONOURS) PROGRAM

WEB ADDRESS: http://www.fhs.mcmaster.ca/bhsc

Michael G. DeGroat Centre for Learning and Discovery, Room 3308
Ext. 22813

Assistant Dean, Bachelor of Health Sciences (Honours)
D.G. Hamish/B.Sc., M.Sc., Ph.D., 3M Teaching Fellow
Program Administrator
T. M. Basilio

Program Overview

This program, first offered in September 2000, is an innovative interdisciplinary program in which students take responsibility for their learning and in which there is recognition that both the knowledge and skill sets developed by students are integral parts of preparing for either further study or entry into the workforce. The principles of independent learning and an emphasis on both content and process are central to the provision of education within the Faculty of Health Sciences, and are reflected in this program. In addition, this program reflects the importance of the assessment of the student within the Faculty of understanding health from biological, behavioural and population-based perspectives. The program will draw on individuals from within the Faculty of Health Sciences and the larger university community to provide students with exposure to basic and applied researchers as well as health care practitioners, enabling students to learn about and experience the study of health from biological, clinical and population perspectives. This approach will utilize both a small group, inquiry-based format as well as traditional lecture, lab, and tutorial based teaching formats to provide students with a solid knowledge base in health related sciences as well as the skills necessary to critically evaluate and synthesize health related information.

The program is designed to emphasize flexibility, recognizing that students may use this program to prepare for a variety of post graduate options including graduate work in medical sciences, professional schools and entry into the workforce. Beyond the first year students may select to focus on one perspective of health and develop relative expertise in this area, while other students may find that their needs are better met by pursuing a broader based program of study through their senior years. The program begins in Level I of the degree Bachelor of Health Sciences (Honours) upon successful completion of Level IV. The four-level program offers opportunity for specialization through electives and through individual study or thesis courses. Registration in Level I of the program is limited to approximately 160 students, with expansion to 180 students at Level II.

BIOMEDICAL SCIENCES SPECIALIZATION (EFFECTIVE 2008-2009)

The proposed specialization in Biomedical Sciences in the Bachelor of Health Sciences (Honours) program will provide students with the option of concentrating their studies in biomedical research. Drawing on faculty from the Departments of Biochemistry and Biomedical Sciences and Pathology and Molecular Medicine, the specialization is designed to build on the existing principles of excellence in the B.H.Sc. (Honours) program, by incorporating fundamental concepts and experimental techniques used in biomedical research in order to communicate, problem-solving, critical thinking, scientific reasoning and logic, experimental design, and working both independently and in a group. These transferable skills and fundamental principles in biomedical sciences will prepare students for a future in professional school, industry, research or graduate studies. Applicants will indicate their interest in this specialization on the B.H.Sc. (Honours) Supplementary Application Form which must be received in the B.H.Sc. (Honours) Program Office by February 9, 2007 (for September 2007 admission). Supplementary Applications are to be submitted electronically via the web at: http://bhsc.mcmaster.ca.

SKILLS

To acquire and apply the following skills as a student and member of society:

1. Self directed learning skills: The ability to identify gaps in one’s own knowledge that prevent solving a problem, to formulate a plan that uses appropriate educational resources, and to obtain and synthesize the information needed to solve that problem.

2. Critical thinking skills: The ability to evaluate the merit of information obtained in various ways and to present information in a way that shows evidence of a critical, reflective approach to information and problems.

3. Synthesizing skills: The ability to understand that most problems can be analyzed from a number of perspectives, to identify these perspectives and to formulate solutions that are comprehensive and adequate reflections of various levels of analysis.

4. Communication skills: The ability to communicate an issue in oral and written form, both effectively and concisely.

PERSONAL QUALITIES

Individuals who successfully complete this program should be prepared to accept responsibility for a life-long process of learning and personal and professional growth. They should respect the various approaches to the study of health, and the beliefs associated with these studies, and should be open to new ways of learning and understanding. They should understand that health care is a collaborative process and be capable of working collegially with others while being prepared to contribute to the well-being of those around them.

Admission Procedures and Requirements

The following are the requirements for admission in the academic year 2006-2007. Please note that the admission policy may be changed in future years. As places in this program are limited, the admission process is competitive. Possession of the minimum requirements does not guarantee admission to the program.

Application to the B.H.Sc. (Honours) Program of the Faculty of Health Sciences implies acceptance of the admission policies, procedures and methods by which applicants are chosen.

Admission Procedures

APPLICANTS FROM ONTARIO SECONDARY SCHOOLS

Applicants currently completing Grade 12 U or M courses apply through the:
Ontario Universities’ Application Centre (OUAC)
170 Research Lane
Guelph, ON N1G 5E2
http://www.ouac.on.ca

Application forms are available in secondary school guidance offices. Applications for all studies beginning in September must be received by OUAC no later than February 9. Supplementary Application Forms which must be received in the B.H.Sc. (Honours) Program Office by February 9, 2007 (for September 2007 admission). Supplementary Applications are to be submitted electronically via the web at: http://bhsc.mcmaster.ca.

Applicants with Qualifications Equivalent to Ontario Secondary School

Applicants from other provinces should contact the Ontario Universities’ Application Centre (OUAC) for an application package for admission consideration. Please refer to the OUAC address above. Applicants must also have their official transcripts forwarded to the Admissions Office, McMaster University, Gilmour Hall, Room 108, 1280 Main Street West, Hamilton, Ontario, L8S 4L8. Applicants are also required to complete a mandatory Supplementary Application Form which must be received in the B.H.Sc. (Honours) Program Office by February 9, 2007 (for September 2007 admission). Supplementary Applications are to be submitted electronically via the web at: http://bhsc.mcmaster.ca.
Applicants from other countries should contact the Office of International Affairs at http://www.mcmaster.ca/oua or (905) 525-9140, ext 24211 for details.

Transfer Applicants
Transfer applicants from McMaster University are required to complete a Program Application for Current Level I Students online via MUGSI during early March to early April and a mandatory Supplementary Application by April 27th.

Applicants from other post-secondary institutions are required to apply through the Ontario Universities' Application Centre (OUAC) (please refer to the OUAC address above) and complete a mandatory Supplementary Application by April 27th. Supplementary Applications are to be submitted electronically via the web at: http://bhsc.mcmaster.ca.

Biomedical Sciences Specialization
B.H.Sc. (Honours) students interested in this specialization will apply in early March (beginning March 2009) via MUGSI by completing the Application for Current Level I Students. Enrolment is limited to approximately 40 students entering in Level II.

Admission Requirements
Applicants from Ontario Secondary Schools
The selection method for Ontario Secondary School applicants is by academic qualifications and a mandatory Supplementary Application. The majority of Level I offers of admission are made in Round 1 (early April). A minimum of 60% is required for consideration. In Round 2, the following grade information will be used:

a) Semester schools: all final Grade 12 U or M courses from first semester or prior years, and second semester midterm grades for Grade 12 U and/or M courses.

b) Non-semester schools: second term grades for full-year Grade 12 U and/or M courses.

Offers based on interim and/or midterm grades will be conditional upon maintaining satisfactory performance on final grades. Supplementary Applications are to be submitted electronically via the web at: http://bhsc.mcmaster.ca. A review of the mandatory Supplementary Application is a very important component of the admission selection process. Applicants who do not complete the Supplementary Application are not considered for admission.

REQUIREMENTS
The following are the minimum Grade 12 U and/or M requirements under the Ontario Secondary School curriculum:

1. English U;
2. Biology U;
3. Chemistry U;
4. Advanced Functions and Introductory Calculus U;
5. One U or M course from Social Sciences (Geography, History, Law, Psychology, Sociology) or Humanities (Art, Drama, English, French, Music, other languages);
6. One additional U or M course in any other subject area to total six courses.

Note: Courses in technological education, science or mathematics are not acceptable as the Social Sciences or Humanities course requirement.

Effective September 2008 Admission: Grade 12 Advanced Functions and Introductory Calculus U will be replaced with one of Grade 12 Mathematics of Data Management U, Advanced Functions U or Calculus and Vectors U. For those applicants who present with more than one of these Mathematics courses, the highest grade will be used to calculate the admission average.

Applicants with Qualifications Equivalent to Ontario Secondary School
Applicants from other provinces and countries must achieve the equivalent to the qualifications listed in the Grade 12 U or M course requirements in their secondary school graduation year.

Transfer Applicants
Transfer applicants will be admitted to the B.H.Sc. (Honours) Program from other programs at McMaster and from other post-secondary institutions. The process will be competitive and will be based on the student's academic qualifications and a Supplementary Application. Enrolment is limited. Students interested in being considered for admission to Level II of the B.H.Sc. (Honours) Program must have completed the equivalent of six units of university Level I Biology and six units of university Level I Chemistry. A cumulative average of at least 8.5 (minimum overall average of B+) will be required for admission.

Curriculum
B.H.Sc. (Honours) {2276}

NOTE
While registration in HTH SCI 4X03 will occur in Level IV, students will begin studies in Level I. Detailed course information is available at http://www.fhs.mcmaster.ca/bhsc/courses/regcourses.htm.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I: 30 UNITS
6 units HTH SCI 1106
6 units CHEM 1A03, 1AA3
6 units HTH SCI 1E06
9 units Electives
1 course SCIENCE 1A00

LEVEL II: 30 UNITS
3 units HTH SCI 2A03
3 units HTH SCI 2E03
3 units HTH SCI 2F03
3 units HTH SCI 2G03
3 units HTH SCI 2J03
3 units HTH SCI 2K03
9 units Electives

LEVEL III: 30 UNITS
3 units HTH SCI 3E03
3 units HTH SCI 3G03
3 units HTH SCI 3G03
3 units HTH SCI 3H03
18 units Electives

LEVEL IV: 30 UNITS
6-9 units HTH SCI 4A09 or 4B06
3 units HTH SCI 4X03 (See Note above.)
18-21 units Electives

B.H.Sc. (Honours) - Biomedical Sciences Specialization (Effective 2008-2009) {2277}

NOTE
While registration in HTH SCI 4X03 will occur in Level IV, students will begin studies in Level I. Detailed course information is available at http://www.fhs.mcmaster.ca/bhsc/courses/regcourses.htm.

REQUIREMENTS
121 units total (Levels I to IV), of which no more than 48 units may be Level I courses.

LEVEL I: 30 UNITS
6 units HTH SCI 1106
6 units CHEM 1A03, 1AA3
6 units HTH SCI 1E06
9 units Electives
1 course SCIENCE 1A00

LEVEL II: 31 UNITS
6 units CHEM 2A03 and 2OB3; or CHEM 2BA3 and 2BB3
3 units HTH SCI 2A03
3 units HTH SCI 2G03
3 units HTH SCI 2K03
3 units HTH SCI 2H03
1 unit HTH SCI 2P01
6 units BIOCHEM 2B03, 2BB3
6 units Electives

LEVEL III: 30 UNITS
3 units HTH SCI 3E03
3 units HTH SCI 3G03
3 units HTH SCI 3G03
3 units HTH SCI 3X02
1 unit HTH SCI 3Z01
3 units from BIOCHEM 3A03, 3P03
3 units BIOCHEM 3D03
3 units BIOCHEM 4E03
6 units Electives
Academic Regulations

STUDENT ACADEMIC RESPONSIBILITY
You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES
All undergraduate courses at McMaster have an enrollment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGS/SOLAR is available to them.

LEVEL IV: 30 UNITS
3 units HTH SCI 4L13
3 units HTH SCI 4X03
6 units from BIOCHEM 3H03, 3N03, 3Y03, 4H03, 4Q03, HTH SCI 4L13, 4J03, MOL BIOL 4H03
9 units BIOCHEM 4F09
9 units Electives

Bursaries
B.H.Sc. (Honours) students are eligible to apply for one of the following bursaries provided they are Canadian citizens and demonstrate financial need. Bursary application forms are available online through MUGSIS via My Financial Aid menu and the quick link Bursary Application from mid-October to mid-November. Bursaries are intended to offset provincial financial assistance. The following bursaries have been generously donated to assist Bachelor of Health Sciences (Honours) students in financial need:
- Ruth Murray Memorial B.H.Sc. Bursary
- Loucks Family and Friends B.H.Sc. Bursary
- Ron and Gina Fraser Health Sciences Bursary

There are many other bursaries provided through the central campus bursary program, which will be disbursed to students in the Fall each year. For further information about bursaries, please contact Teresa Basilio, (905) 525-9140 ext. 22786.

Academic Regulations

In addition to the regulations in the General Academic Regulations section of this Calendar, the following Program regulations apply.

MINOR
A Minor is an option available to a student enrolled in a four- or five-level program. A Minor consists of a minimum of 24 units in the Minor subject. No more than six of these units can be at Level I, unless otherwise stated in the specific requirements of the Minor. A student is responsible for registering for courses to be applied towards a Minor using elective units only. In the case of cross-listed courses, students must ensure that they register in the appropriate subject for the Minor designation. Those who have the necessary requirements may apply for recognition of that Minor when they graduate.

If recognition for a Minor is granted, this recognition will be recorded on the student's transcript. Minor cannot be revoked once approved. Students may return for a second degree in the subject in which they have obtained a Minor, but only at the Honours level. For further information please refer to Minors in the General Academic Regulations section in this Calendar.

CONTINUATION IN THE PROGRAM
Students must have a CA of 6.0 to continue in the program. If a CA of 5.0 to 5.9 is obtained, a student may remain in the program but will be placed on program probation for one reviewing period. A student may be on program probation only once.

If a CA of 3.5 to 4.4 is obtained, a student must transfer to another program for which he/she qualifies, or register in the B.H.Sc. (Honours) Program as an irregular student for one reviewing period. During that period a student cannot take B.H.Sc. (Honours) Program courses. At the end of that period a student may apply for readmission to the B.H.Sc. (Honours) Program.

If a CA of 3.0 to 3.4 is obtained, a student will be placed on academic probation. A student may continue in the program for one reviewing period as an irregular student but cannot take B.H.Sc. (Honours) Program courses. The purpose of this period is to prepare a student for a program outside the B.H.Sc. (Honours) Program. A student may be on academic probation only once.

If a CA of less than 3.0 is obtained, a student may not continue at the University.

WORKLOAD
Students who wish to take more courses than recommended for a single level of their program may do so if their CA on completion of the previous session is at least 7.0. Students registered in the final level of the program are permitted to overload by up to six additional units in order to become eligible to graduate.

LETTERS OF PERMISSION
Students enrolled in the B.H.Sc. (Honours) Program may apply to the Office of the Assistant Dean to take courses at another university on a Letter of Permission. Request for Letter of Permission Forms are available from the B.H.Sc. web site at http://www.fhs.mcmaster.ca/bhsc/registered/documents/LetterofPermission.pdf. Students must achieve a grade of at least C to receive credit.

Students are responsible for forwarding the transcript from the other university directly to the Assistant Dean (MDCL-3308). If a grade of C- or better is attained, the transcript designation reads COM indicating complete, or NC indicating not complete if less than a C grade is attained.

Credits taken at another university cannot be used to satisfy the university’s minimum residence requirements, will not be included in the calculation of the Cumulative or Sessional Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on a Letter of Permission.

Students must be in good standing to be eligible to take courses on a Letter of Permission.

LEVEL OF REGISTRATION
A student with six or more units incomplete at any level may proceed to the next level of the program only with the permission of the B.H.Sc. (Honours) Program Office.

RESTATEMENT TO THE B.H.SC. (HONOURS) PROGRAM
A student who may Not Continue at the University may apply for reinstatement. Students seeking reinstatement should complete the Reinstatement Request Form available at the Office of the Registrar (Gilmour Hall, Room 108). The completed form and the $50.00 fee must be submitted to the Office of the Registrar by July 15 for September entry and November 30 for January entry.

The form should explain the reasons for the student’s inadequate performance, corroborated by two letters of support, and should also include relevant documentary evidence such as, for example, a physician’s letter documenting an illness that may have impacted upon the student’s prior academic performance. Reinstatement cases will be carefully screened and the evidence considered will include the student’s academic performance before and following admission to McMaster, as well as the nature of the reasons cited in the letter, the letters of support and the accompanying documentation. Reinstatement is not guaranteed.

If students are reinstated to the University, their Cumulative Average will be re-set to 0.0 on zero units, although students may, at the discretion of the Faculty, retain credit for prior work. Following reinstatement, students will be on academic probation and must complete a minimum of 60 units of work after reinstatement to be eligible for graduation with Distinction or other recognition based on the Cumulative Average. If at any review after reinstatement the student’s Cumulative Average falls below 3.3, the student will be required to withdraw from the University for a period of at least 12 months.

REGISTRATION AND COURSE CHANGES
It is the responsibility of the student to ensure that the program of work undertaken meets the requirements for the degree. It is highly recommended that you review your personal degree audit via MUGSIS on the working day following each time you drop or add courses and seek academic counselling from the B.H.Sc. (Honours) Program Office if you have any questions. Dates for final registration and course changes appear in the Sessional Dates section of this Calendar and are enforced.
The three-year program in Medicine uses a problem-based approach to learning that should apply throughout the physician’s career. The components have been organized in sequential blocks with early exposure to patients and case management.

THE MICHAEL G. DEGROOTE SCHOOL OF MEDICINE

WEB ADDRESS: http://www.fhs.mcmaster.ca/mdprog/

Michael G. DeGroote Centre for Learning and Discovery, Room 3101
Ext. 22141

Assistant Dean

Program Administrator
C. Oudshoorn.

The School of Medicine, established in 1965 and renamed the Michael G. DeGroote School of Medicine in 2004, offers major programs in undergraduate, postgraduate and graduate medical education. The clinical programs use not only the teaching hospital and ambulatory care and research facilities at the McMaster University Medical Centre division of Hamilton Health Sciences, but also the clinical teaching units at several of the major Hamilton hospitals and community health-care centres.

The Undergraduate Medical Program for the MD degree was initiated in 1969, graduating its first students in May 1972. In August 2008, 176 students will be admitted to the program.

New Waterloo-Wellington And Niagara Region Campuses

For the incoming class in 2007, 15 of the 162 positions were designated to the new campus in Waterloo-Wellington. For the incoming class in 2008, an additional 15 positions will be added in the Niagara Region. All applicants invited to the McMaster MMI (Multiple-Mini Interview) will be asked to rank their site choice (Hamilton, Waterloo-Wellington or Niagara Region) as 1, 2, 3 or no preference. Offers of admission to the medical school will be made from the master rank list irrespective of geographical preference. Subsequent to filling the 176 positions, registrants to the class will be offered a position based on their preference and geographical background. The offer of admission will be binding to a specific site.

The academic program operates on an 11 months-a-year basis and students qualify for the MD degree at the end of the third academic year. The curriculum has been designed to involve medical students in a broad range of human health problems throughout their education and to prepare them for effective working relationships with patients, colleagues and society.

Postgraduate training programs currently include: Anesthesia, Community Medicine, Critical Care, Emergency Medicine, Family Medicine, Internal Medicine (and subspecialties), Laboratory Medicine (and subspecialties), Obstetrics and Gynecology, Pediatrics (and subspecialties), Psychiatry, Radiology, and Surgery (and subspecialties).

More details on these postgraduate programs are available from the Postgraduate Medical Education Office.

Graduate programs leading to the M.Sc. and Ph.D. degrees are offered in Biochemistry and in Medical Sciences. An M.H.Sc. (Medical Health Sciences) Praxis Degree is also available.

THE UNDERGRADUATE MEDICAL PROGRAM

(7880)

The Undergraduate MD Program at McMaster University fosters a cooperative, supportive and respectful environment. The curriculum evolves continuously, responsive to the changing needs of Ontario society, nurturing the development of the following competencies at the time of graduation:

1. Medical expert - students will be able to apply scientific principles from human biology, behaviour and population health to the solution of health problems; they will have the ability to seek out new information and evaluate this information critically.

2. Communicator/Coordinator - students will demonstrate effective communication skills relative to the needs of patients and cognizant of the roles of other members of the health care team in delivering patient care.

3. Advocate/Resource Manager - graduating students will be knowledgeable about the determinants of health and be proactive advocates for their individual patients and for healthy public policy within the context of the health care system.

4. Scholar/Leader - students will be self-directed lifelong learners, whose exposure at McMaster to role models in research and clinical care will encourage them to apply innovative approaches to solving health care problems.

5. Self-reflective Practitioner - graduating students will be expected to have developed an awareness of the influence of their attitudes, values and assumptions, how these affect their practice of medicine and the impact of the practice of medicine on themselves as individuals.

THE COMPASS CURRICULUM

In September 2005, the Undergraduate MD Program at McMaster University inaugurated a completely new curriculum called the COMPASS curriculum. The curriculum focuses on the mastery of fundamental concepts in medicine. It continues the McMaster tradition of problem-based learning but incorporates research findings from cognitive psychology. The curriculum is structured on the integration of critical concepts and each step of the curriculum is based on the goal of important concepts learned previously. Tutorial problems are selected to illustrate these concepts in a clinical setting and when students are exploring tutorial problems, which remain the focus of learning, they will be directed towards asking questions of what and why and how these concepts apply to specific contexts. The curriculum is specifically designed with designated curricular time for deliberate practice applying the concepts that have been learned.

The pre-clerkship curriculum is divided into five Medical Foundations as shown in the curriculum outline. A novel feature of the curriculum is a horizontal Professional Competencies curriculum which runs through the entire program. As in the Foundations tutorial-based curriculum, students will work in small groups throughout the Professional Competencies curriculum which interdigitates and remains connected to the Foundations curriculum throughout the pre-clerkship and on into the clerkship. The core competencies of the Professional Competencies curriculum are introduced early in the program and are interprofessional in nature. Students are introduced to patients within the first week of the program and how as much as what is the diagnosis. The curriculum is designed to build a cooperative, supportive and respectful environment. The curriculum evolves continuously, responsive to the changing needs of Ontario society, nurturing the development of the following competencies at the time of graduation:

1. Medical expert - students will be able to apply scientific principles from human biology, behaviour and population health to the solution of health problems; they will have the ability to seek out new information and evaluate this information critically.

2. Communicator/Coordinator - students will demonstrate effective communication skills relative to the needs of patients and cognizant of the roles of other members of the health care team in delivering patient care.

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5. Self-reflective Practitioner - graduating students will be expected to have developed an awareness of the influence of their attitudes, values and assumptions, how these affect their practice of medicine and the impact of the practice of medicine on themselves as individuals.

UNDERGRADUATE MD PROGRAM GOALS

The Undergraduate MD Program at McMaster University fosters a cooperative, supportive and respectful environment. The curriculum evolves continuously, responsive to the changing needs of Ontario society, nurturing the development of the following competencies at the time of graduation:

1. Medical expert - students will be able to apply scientific principles from human biology, behaviour and population health to the solution of health problems; they will have the ability to seek out new information and evaluate this information critically.

2. Communicator/Coordinator - students will demonstrate effective communication skills relative to the needs of patients and cognizant of the roles of other members of the health care team in delivering patient care.

3. Advocate/Resource Manager - graduating students will be knowledgeable about the determinants of health and be proactive advocates for their individual patients and for healthy public policy within the context of the health care system.

4. Scholar/Leader - students will be self-directed lifelong learners, whose exposure at McMaster to role models in research and clinical care will encourage them to apply innovative approaches to solving health care problems.

5. Self-reflective Practitioner - graduating students will be expected to have developed an awareness of the influence of their attitudes, values and assumptions, how these affect their practice of medicine and the impact of the practice of medicine on themselves as individuals.

THE COMPASS CURRICULUM

In September 2005, the Undergraduate MD Program at McMaster University inaugurated a completely new curriculum called the COMPASS curriculum. The curriculum focuses on the mastery of fundamental concepts in medicine. It continues the McMaster tradition of problem-based learning but incorporates research findings from cognitive psychology. The curriculum is structured on the integration of critical concepts and each step of the curriculum is based on the goal of important concepts learned previously. Tutorial problems are selected to illustrate these concepts in a clinical setting and when students are exploring tutorial problems, which remain the focus of learning, they will be directed towards asking questions of what and why and how these concepts apply to specific contexts. The curriculum is specifically designed with designated curricular time for deliberate practice applying the concepts that have been learned.

The pre-clerkship curriculum is divided into five Medical Foundations as shown in the curriculum outline. A novel feature of the curriculum is a horizontal Professional Competencies curriculum which runs through the entire program. As in the Foundations tutorial-based curriculum, students will work in small groups throughout the Professional Competencies curriculum which interdigitates and remains connected to the Foundations curriculum throughout the pre-clerkship and on into the clerkship. The core competencies of the Professional Competencies curriculum are introduced early in the program and are interprofessional in nature. Students are introduced to patients within the first week of the program and how as much as what is the diagnosis. The curriculum is designed to build a cooperative, supportive and respectful environment. The curriculum evolves continuously, responsive to the changing needs of Ontario society, nurturing the development of the following competencies at the time of graduation:

1. Medical expert - students will be able to apply scientific principles from human biology, behaviour and population health to the solution of health problems; they will have the ability to seek out new information and evaluate this information critically.

2. Communicator/Coordinator - students will demonstrate effective communication skills relative to the needs of patients and cognizant of the roles of other members of the health care team in delivering patient care.

3. Advocate/Resource Manager - graduating students will be knowledgeable about the determinants of health and be proactive advocates for their individual patients and for healthy public policy within the context of the health care system.

4. Scholar/Leader - students will be self-directed lifelong learners, whose exposure at McMaster to role models in research and clinical care will encourage them to apply innovative approaches to solving health care problems.

5. Self-reflective Practitioner - graduating students will be expected to have developed an awareness of the influence of their attitudes, values and assumptions, how these affect their practice of medicine and the impact of the practice of medicine on themselves as individuals.
and skills to meet the objectives of the Foundation in which they are working. They also learn to work as a team, helping and learning from peers. The study habits and sense of responsibility to self and others provide a basis for lifelong working and learning habits. Attendance is mandatory. In the Professional Competencies curriculum, students work in groups of 10, with two facilitators, one an MD, the other a non-MD.

Students admitted to the Undergraduate Medical Program have the responsibility and privilege of taking an active role in the planning and evaluation of the education program. Through representation on most policy-making and implementing committees, students can influence decisions in such areas as education, philosophy, faculty recruitment and curriculum design. It is expected that all students will participate in the continuing reappraisal and improvement of the program. Such participation is a hallmark of the Program.

STUDENT EVALUATION METHODS

The evaluation format has been designed to complement learning in the Undergraduate Medical Program. Evaluation methods have been developed to measure how well the student achieves the stated educational objectives in the various Foundations of the program. Continual evaluation of the student occurs within the tutorial setting with input from their peers, faculty preceptors and the tutor.

One objective evaluation exercise is required in each Foundation. The evaluation format has been designed to complement the tutorials and all associated activities during that Foundation. A copy of the evaluation summary is given to the student and to the student advisor while the original is kept in the student's evaluation file. In addition to the tutorial-based evaluation, the accumulation of medical knowledge is assessed at regular intervals by means of the Personal Progress Index. This is in a multiple-choice format. Results are given to the students for self-evaluation and, in summary form, to the student advisor. The Personal Progress Index is in addition to, and does not replace, tutorial- and performance-based evaluation. The Program monitors student progress, and responds to students showing persistently low progress. The acquisition of clinical and professional skills is evaluated by clinical skills preceptors in each Foundation and in the Clerkship, and additional Objective Structured Clinical Evaluations (OSCE's) which are run on an annual basis.

The Evaluation Committee has the responsibility of working with the Medical Program to assist with the development and implementation of valid and reliable evaluation methods to provide timely and helpful information to assist students and faculty in assessing progress and performance. The evaluation continues in the Foundation Program is subject to satisfactory performance.

Curriculum Plan - COMPASS Curriculum

| MEDICAL FOUNDATION 1: | The introductory component of this block of curriculum addresses patterns of determinants of health. The premise of this portion of the curriculum is that health care systems do not account for much of the systematic differences in health status within or among populations in advanced industrial societies. Students are encouraged to consider why people get sick in the first place and why people get well. Social epidemiologists see that causes of ill health in populations are different from causes of ill health in individuals.
| MEDICAL FOUNDATION 2: | This is the first of the two Foundations that addresses aspects of homeostasis and energy balance, including issues related to the GI tract, endocrine system and nutrition.
| MEDICAL FOUNDATION 3: | This Foundation covers the second part of homeostasis, including the balance of acid and base, blood pressure and renal function and then goes on to address reproduction and pregnancy and a number of issues in genetics related to reproduction.
| MEDICAL FOUNDATION 4: | This Foundation addresses host defense, which includes immunology and infectious disease, and then moves on to look at neoplasia and the genetics of neoplasia.
| MEDICAL FOUNDATION 5: | This covers the concepts of movement control and interacting and communicating, which includes the locomotor systems, the professions and system behaviour. Aspects of human development and illness. An integration week between each of the Medical Foundations allows students to review on a continuous basis material learned up to each integration point. In this way, students can build their knowledge in a systematic way.

The Clerkship: While the Clerkship will be firmly linked to the pre-clerkship concept-based curriculum and will include continuing education in medicine, geniatrics, orthopedic surgery, surgery, family medicine, obstetrics, gynecology and emergency medicine. There is also elective time, one half of which must be spent in clinical activity. The program components of the Clerkship are carried out in teaching hospitals and in the teaching community. The Clerkship program consists of rotations in medicine, geniatrics, orthopedic surgery, surgery, family medicine, obstetrics, gynecology and emergency medicine. There is also elective time, one half of which must be spent in clinical activity. The Clerkship program consists of rotations in medicine, geniatrics, orthopedic surgery, surgery, family medicine, obstetrics, gynecology and emergency medicine.

Electives Study forms an integral part of the Curricular plan. They may be considered the epitome of self-directed learning, since students must define goals for electives which are appropriate for their own learning objectives. These objectives represent specific areas of educational need or interest. The responsibility for planning electives rests with each student in collaboration with the student advisor.

The three types of electives in the Undergraduate Medical Program are:

1. Block Electives: These are blocks of curriculum time dedicated to full-time elective activities. Their satisfactory completion is a mandatory component of the Undergraduate Medical Program. Block Electives occur after Medical Foundation 4 and during the Clerkship. Clinical electives in the MD Program must be organized so that each student has an elective experience in a minimum of three different disciplines, each of which will take place for a minimum of two weeks.
2. Horizontal Electives: These are undertaken concurrently with other parts of the curriculum. Horizontal electives are entirely voluntary, not being required for completion of the program, but are used to explore or review a specific area of knowledge or practice in more detail. It is particularly important that the student's advisor be involved in all decisions concerning the selection of horizontal electives.

3. Enrichment Electives: There are arrangements in place for a small number of students from each class to devote longer periods of time (from six to 12 months) to the pursuit of special academic experiences. The intent is to encourage students to explore special frontier areas of medicine and health care. Examples include international medicine; community health projects; international health opportunities. These experiences are often undertaken following Medical Foundation 5 or during the first half of Clerkship. Some experiences may potentially have partial funding (e.g. by student research fellowships).

MD/Ph.D. PROGRAM

Senate approved the establishment of the MD/Ph.D. in Medical Sciences or Biochemistry, which will provide an MD/Ph.D. curriculum in Orders in the Faculties of Health Sciences and the School of Graduate Studies. This program will take advantage of the excellence within both of the Faculty and the School, allowing students to complete all the requirements of the MD curriculum and the Ph.D. curriculum in shorter completion times. It is anticipated that the program will accept up to three students annually to reach a steady capacity of approximately 10-15. Direct admission to the combined program is possible for students with a four-year Honours B.Sc. or B.H.Sc. (Honours) degree with a strong background in the biological sciences - Biochemistry, Biology, Microbiology, Molecular Biology. Applicants are required to apply through OMSAS for medical admission and separately to the Graduate Program/Department of interest (http://www.mcmaster.ca/graduate) and must be acceptable to both. Please note that the criteria for admission to the MD/Ph.D. Program are more stringent than those for admission to the Undergraduate Medical Program. Applicants who are not selected by the MD/Ph.D. Program are still eligible that same year for the Undergraduate Medical Program.

REGULATIONS FOR LICENCE TO PRACTICE

A degree in medicine does not in itself confer the right to practice medicine in any part of Canada. To acquire this right, university graduates in medicine must hold a certificate of the College of Physicians and Surgeons of the province in which they elect to engage in practice. Students in Ontario medical schools will be required to register with the College of Physicians and Surgeons of Ontario (CPSO). Students intending to practise outside Ontario are urged to consult the licensing body of that province regarding registration. Licensing requirements vary somewhat among the provinces. The current Ontario requirements for issuance of a Certificate of Registration Authorizing Independent Practice are:

1. Certification by the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada;
2. Parts I and II of the Medical Council of Canada Qualifying Examination;
3. Canadian Citizenship or Landed Immigrant Status.

In general, students are expected to obtain a certificate from either the College of Family Physicians of Canada or from the Royal College of Physicians and Surgeons of Canada in order to be licensed in the province of Ontario.

CANADIAN RESIDENT MATCHING SERVICE (CaRMS)
The Canadian Resident Matching Service is designed to help final year medical students obtain the post-MD program of their choice, and to help program directors obtain the students of their choice. It provides an orderly method for students to decide where to train and for program directors to decide which applicants they wish to enrol. For both students and directors, it removes the factors that generally determine future practice environments.

Further information is available from Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

BASIC CARDIAC LIFE SUPPORT TRAINING
All students are required to provide evidence of a current certificate in Basic Cardiac Life Support (Adult and Child CPR) by October 31st of each academic year. Certification normally expires after a one year period. Courses are readily available in most communities. Information will be sent to successful applicants prior to registration. Specific questions can be directed to Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

IMMUNIZATION

The Ontario Public Hospitals Act requires that all persons working in a hospital setting meet certain criteria regarding surveillance for infectious diseases. In order for the requirement of the legislation to be met, once students have been enrolled in the MD Program, they must annually complete Pre-Clinical Communicable Disease Screening through the Student Health Services. More information will be sent to successful applicants prior to registration. Specific questions can be directed to Cathy Oudshoorn, MD Program Administrator, (905) 525-9140, ext. 22141.

POLICE RECORDS CHECK

Through the course of their medical school program, all medical students will serve vulnerable populations. In an effort to protect these vulnerable people against potential risk of harm, the Ontario Faculty's of Medicine and many clinical agencies require that all medical students provide confirmation of the absence of a criminal conviction or outstanding criminal charges. An offer of admission is contingent upon provision of a Police Records Check, at the applicant's expense. At the beginning of each subsequent academic year in the Undergraduate Medical Program, students will be required to sign a criminal record and disclosure form to confirm that there has been no change in the information contained in the Police Records Check.

The Police Records Check includes a Vulnerable Sector Screening and check of the Royal Canadian Mounted Police (RCMP), National Canadian Police Information Centre (CPIC) database for the following:
- All records of Criminal Code (Canada) convictions
- All pardoned sexual offences
- All records of convictions under the Controlled Drugs and Substances Act
- All records of convictions under the Narcotic Control Act
- All records of convictions under the Food and Drug Act
- Any undertakings to enter into a Surety to Keep the Peace
- Any Restraining Orders issued under the Criminal Code (Canada) or the Family Act
- All outstanding warrants and charges

The Michael G. DeGroote School of Medicine will review the files of any applicants who have presented a Not Clear Police Records Check to determine what action, if any, will be taken.

Admission Policy for the Medical Program

The official admission policy and deadlines for the Undergraduate Medical Program for entry in late August 2008 shall be as published in the 2008 Ontario Medical School Information Booklet. This booklet is available through:

Ontario Medical School Application Service (OMSAS)
170 Research Lane
Guelph, Ontario, N1G 5E8
(519) 823-1940
http://www.ouac.on.ca/omsas/
email: omsas@ouac.on.ca

Please note that the admission policy is reviewed annually, and the admission requirements from the previous year may not apply. Because of the nature of the selection procedures, deadlines are strictly enforced. All relevant documentation must be provided by the specified deadlines. Applicants must follow the instructions precisely. All applicants should be aware that the Admissions Office is committed to the protection of personal information. Use of any personal information is strictly limited to the appropriate handling of applications, record-keeping for those admitted to the program, and research intended to further the efficacy of Medical Education Program procedures. The University reserves the right to change the admission requirements at any time without notice.

ADMISSION AND REGISTRATION

Registration in the Undergraduate Medical Program implies acceptance by the student of the objectives of the program, and the methods which evaluate progress toward the achievement of those objectives. The following describes the regulations governing admission and registration in the Undergraduate Medical Program. Candidates applying for entry in 2008 must register their intention to apply with the Ontario Medical School Application Service (OMSAS) by September 15, 2007. The final application deadline is October 1, 2007. The deadline is strictly enforced.
ADMISSION POLICY AND PROCEDURE

The intention of the McMaster Undergraduate Medical Program is to prepare students to become physicians who have the capacity and flexibility to select any area in the broad field of medicine. The applicant is selected with the results of their application. These letters are mailed to applicants a class of 176 is selected.

commencing late August 2008. Applicants who will not be ready or methods by which candidates are chosen for the program.

All applicants must fulfill the requirements described below in their Supervisory Committee, or the chair of the Department to

APPLICANTS

All applicants are notified in writing, by McMaster University, of the results of their application. These letters are mailed to applicants on May 15, 2008.

FALSIFICATION OF ADMISSION INFORMATION

Applicants should understand that where it is discovered that any application information is false or misleading, or has been concealed or withheld, the application will be deemed to be invalid. This will result in its immediate rejection. If the applicant has already been admitted and registered as a student, withdrawal from the University may be required. The MD Admissions Committee will normally not allow the applicant to reapply to the Medical Program for seven (7) years.

ACADEMIC ELIGIBILITY REQUIREMENTS

Applicants must report on the Post-Secondary Education Form of the OMSAS application all grades received in the degree credit courses in which they have ever registered. Failure to report courses, programs or grades on the Post-Secondary Education Form will result in the disqualification of the application. All grades are converted by the applicant on the Post-Secondary Education Form to a 4.0 scale according to the OMSAS Undergraduate Grading System Conversion Table. (The Conversion Table is provided with the OMSAS Application.)

All applicants must fulfill the requirements described below in both a) and b).

a) By June 2008, applicants must have completed a minimum of three years of undergraduate work. Only degree credit courses taken at an accredited university will be considered. To satisfy the minimum requirements, academic credentials obtained from a Canadian University must be from an institution that is a full member of the Association of Universities and Colleges of Canada (AUCC) or the Council of Ontario Universities (COU). The applicant must be able to demonstrate a high level of academic achievement consistently throughout their undergraduate career.

A minimum of 15 full-courses, or 30 half-courses (three years) of Undergraduate university work from a recognized university is required. There is no requirement that applicants carry a full course load. A year is the full block of work specified for a year or level of the program as indicated on the university transcript and in the appropriate university calendar. If requested, applicants must provide evidence that this requirement has been met by June 30th of the year of entry. Any discrepancy in interpretation of full block of work will be settled using the OMSAS definition. An applicant who has completed a diploma at a CEGEP must have completed by June 2008, at least two additional full academic years of degree credit work at an accredited university. Applicants who have completed the requirements for a baccalaureate degree in less than three years by October 1, 2007 are also eligible.

b) By October 1, 2007, applicants must have achieved an overall simple average of at least 3.0 on the OMSAS 4.0 scale. While an overall simple average of at least 3.0 on the OMSAS 4.0 scale meets the minimal criterion for consideration for admission, prospective applicants should be aware that given the rising level of competition for a limited number of positions, a significantly higher GPA would provide them with a more reasonable chance of admission. Due to changes from year to year in the level of competitiveness, an exact figure in this regard cannot be provided.

c) Marks on supplementary and summer courses will be included in the grade point average calculation.

d) Graduate experience of applicants will be considered in the admission process. Graduate work will not be considered unless it is complete and the degree has been conferred by the application deadline, October 1, 2007. Individual grades received for coursework taken as part of a graduate degree will not be included in the calculation of the grade point average.

ABORIGINAL APPLICANTS

Applicants who wish to be considered under the Aboriginal (Indian, Inuit or Metis, as recognized in the Constitution Act, 1982) application process will also be required to provide a letter of recommendation from their First Nation, Band Council, Tribal Council, Treaty, community or organizational affiliation. Aboriginal applicants are required to complete the Undergraduate MD Program application package as provided by the Ontario Medical School Application Service (OMSAS).

Applicants must meet academic criteria for admission as set out for the general pool of candidates and have an overall GPA of at least 3.0 as calculated on the OMSAS 4.0 scale.

GEOGRAPHICAL CONSIDERATION

The geographical status of the applicant is determined from the Autobiographic Sketch. Applicants may be asked to provide evidence of geographical status. In selecting applicants for interview, the bona fide place of residence will be based upon: 1) the province of Ontario; or 2) the rest of Canada and other countries. To qualify for Ontario status, an applicant must be a Canadian citizen or permanent resident by October 1, 2007, and have resided for at least three years in the province of Ontario since the age of 14 by the date of possible entry into the program.

TRANSCRIPT REQUIREMENTS AND TRANSCRIPT REQUEST FORMS (TRF)

All transcripts from Ontario universities must be ordered by OMSAS via the TRF. It is required that applicants will request all other transcript materials prior to September 15, 2007 to allow adequate time for processing requests and for receipt at OMSAS by the prescribed deadline. If an applicant is registered at a post-secondary institution at the time of the application, the applicant's responsibility is to ensure that all of the above are received at OMSAS by October 1, 2007. Failure by the applicant to meet these requirements will result in the disqualification of the application.

All transcripts must be submitted directly to OMSAS by the post-secondary institutions attended. McMaster requires that applicants provide transcripts of all courses/programs attended at any post-secondary institution. This includes community colleges, CEGEPs, junior colleges, pre-university programs, etc.

Failure by the applicant to comply with the instructions or to meet the deadlines will result in disqualification of the application.

REGISTRAR STATEMENTS

Please note that the transcripts do not always report the fall/winter/summer 2007/2008 courses in which applicants are registered. In this case, applicants must arrange to have the Registrar of the institution that they are attending send a statement of registration to OMSAS by October 1, 2007. When undergraduate courses are in progress at the time of application and these are not reported on the transcript, applicants must submit a Registrar Statement by October 1, 2007. This is particularly important to establish that the applicant has satisfied the minimum academic requirement by June 2008. A similar rule applies to graduate work in progress by October 1, 2007.

Graduate students enrolled in a graduate program at the time of application must arrange for their Supervisor, a member of their Supervisory Committee, or the Chair of the Department to provide a letter indicating they are aware the applicant is intending to apply to medical school. Applicants should arrange for this letter to be received at OMSAS by October 1, 2007.
CREDENTIALING OF NON-CANADIAN GRADES

Applicants, Canadian or non-Canadian, who have not met the minimum course number criterion utilizing their Canadian data and require inclusion of their international education data to meet the minimum course number criteria are required to have their foreign transcript assessed by World Education Services (WES). Credentialing assessment means converting foreign academic credentials into their Ontario educational equivalents. A course-by-course evaluation along with the calculation of an overall GPA is required. Applicants must have their transcripts sent directly from their university to WES and OMSAS and be able to prove (with dated letter and dated post office receipt) that an attempt was made to have the transcript issued by their university and sent to OMSAS by October 1, 2007. Those requiring WES assessment must also ensure that transcripts are received by WES in time for their assessment to reach OMSAS by October 1, 2007.

AUTOBIOGRAPHICAL SUBMISSION

Applicants must provide an Autobiographical Submission which is a description of their preparation for medicine and suitability for the McMaster Undergraduate Medical Program.

The Autobiographical Submission Booklet is included in the on-line application provided by OMSAS. Details with regard to the length and format of responses to the Autobiographical Submission are provided on the OMSAS website. Those instructions are considered to be part of the Admission Policy and Procedures for the McMaster Undergraduate Medical Program.

Failure to comply with the instructions for the Autobiographical Submission Package will result in disqualification of the application.

ENGLISH LANGUAGE PROFICIENCY

Each student granted admission to McMaster’s Undergraduate Medical Program must be proficient in spoken and written English. All application materials must be submitted in English, including the Autobiographic Sketch, otherwise the application will not proceed further in the admissions process.

Applicants whose first language is not English must satisfy, by October 1, 2007, at least one of the following conditions:

1. provide evidence that a score of at least 550 on the paper-based TOEFL or 237 on the computer-based test or 86 on the iBT with a minimum score of 20 in each of the four components, or the equivalent on other recognized tests has been achieved (McMaster University code is 0936); or
2. have attended an educational institution, where instruction was in English, for at least three years; or
3. have resided for at least four years in an English-speaking country.

INTERVIEWS

Several hundred applicants will be invited to Hamilton for an interview. Because the interviews involve many other people, applicants must attend scheduled interviews. An in-person interview is mandatory in order to be considered for admission. Applicants are responsible for their own travel expenses.

The interview process entitled the Multiple Mini Interview (MMI), is primarily composed of a series of ten-minute encounters over a two-hour period. Due to the nature of the MMI, videoconference or telephone interviews are not possible.

SELECTION

All the information resulting from the process described above, as well as the Confidential Assessments from referees, may be reviewed and used in the final selection. Applicants will be notified in writing by McMaster University of the results of their application. These letters are mailed to applicants on May 15, 2008.

Anyone accepted on offer of admission must provide, within two weeks of acceptance, a cheque in the amount of $1,000 (Canadian), non-refundable, which will subsequently be applied towards tuition.

APPLICATION FOR DEFERRED REGISTRATION

Deferred registration may be granted only under exceptional circumstances. Deferred registration may be requested only by those accepted in the class on May 15, and who have accepted that offer. The request for deferral must be submitted within two weeks of the offer of admission.

SPECIAL APPLICANTS

The Special Applicant Pool is on hold this admission cycle.
B.H.SC. MIDWIFERY PROGRAM {6501}

WEB ADDRESS: http://www.fhs.mcmaster.ca/midwifery/

Michael G. DeGroote Centre for Learning and Discovery, Room 3103  
Ext. 26654

Assistant Dean  
E. Hutton/B.N.Sc., M.Sc.N., Ph.D.

Program Administrator  
C. Ferrie

Program Overview

The Midwifery Education Program at McMaster University leads to a Bachelor of Health Sciences (B.H.Sc.) in Midwifery. The program reflects the philosophy of midwifery in Ontario. Midwifery is potentially one of the most important components of women's health care in Ontario. Midwives' expertise in the care of normal pregnancy and childbirth arises from their understanding of childbearing as a social, cultural and biological process and from their ability to competently exercise clinical skills and decision-making. Midwifery education provides the foundation for sound professional practice. The educational program is an integral part of the evolution of midwifery in Ontario and Canada. The program is credited with training leaders who help create future leaders and teachers. It assures practice and teaching as a continuum so that learning environments become available across Ontario. Midwives, as primary health care providers, should have well-developed interpersonal skills.

They must be competent in areas of health education, counseling and interprofessional collaboration. Applicants to the program will be assessed for their ability to exhibit and further develop these important personal professional qualifications. Midwives provide care and advice to women during pregnancy, labour and the postpartum period; conduct deliveries and provide care for newborn babies. The Midwifery Education Program is a collaborative venture shared by McMaster, Ryerson and Laurentian Universities.

Curriculum

The four year program which spans nine terms, includes courses from basic sciences, social sciences, health sciences, women's studies and electives, in addition to clinical courses. A variety of course formats include distance learning through teleconferencing and print-based self-study courses. Teaching methods include lecture format, small group tutorials, self-directed activities and practical learning experiences.

INTENSIVES

Intensives provide the opportunity for the students to group together for several days for workshopsclinical skills sessions. All intensives are held at McMaster University and generally last one week. In Level IV, the intensive session includes students from all three institutions. Intensives are part of the curriculum and therefore, attendance is mandatory.

CLINICAL COURSES

Clinical courses consist of a clinical placement and concurrent problem-based weekly tutorials. Students are assigned to a midwifery practice for an extended period of time to ensure continuity of care to expectant mothers and supervision from a clinical preceptor. Throughout the program, students will be placed in more than one midwifery practice and will gain clinical experience in a hospital setting and with an obstetrician. Efforts are made to assist students in being assigned to the clinical practice of their choice, however, due to limited placements, students may have to relocate or travel for clinical placements. Travel and living expenses are the responsibility of the student.

REQUIREMENTS

133 units total (Levels I to IV)

LEVEL I: 31 UNITS

6 units HTH SCI 1D06*  
6 units HTH SCI 1C06  
6 units WOMEN ST 1A03*, 1A04  
4 units HTH SCI 3C04 (Term 2)*  
3 units MIDWIF 1D03 (Term 1)  
3 units HTH SCI 1J03* (Term 1)  
3 units Electives from the Faculties of Health Sciences, Humanities, or Social Sciences (Term 2)*

* Indicates units taken as a research or teaching assistant during the academic year
LEVEL II: 30 UNITS
3 units
- HTH SCI 2M03 (Term 1)
15 units
- MIDWIF 2H15 (Term 2)
3 units
- MIDWIF 2F03 (Term 1)
6 units
- Electives from the Faculties of Health Sciences, Humanities, Social Sciences (Term 1)

LEVEL III: 42 UNITS
15 units
- MIDWIF 3G15 (Term 1)
9 units
- MIDWIF 3A09 (Term 2)
3 units
- MIDWIF 3F03* (Term 2)
15 units
- MIDWIF 3H15 (Term 3)

LEVEL IV: 30 UNITS
15 units
- MIDWIF 4A15 (Term 1)
15 units
- MIDWIF 4B15 (Term 2)
*Transfer credit may be available.

Admission Procedures and Requirements

Admission into the Midwifery Education Program is reserved for candidates who meet all requirements and who satisfy the academic regulations of the university. It is recommended that applicants have completed at least one year of university studies prior to application. All certified transcripts from secondary and post secondary universities previously attended must be forwarded to the Office of the Registrar. The application deadline is February 1 each year. Applications received after February 1 will not be considered. Please note that required courses must be completed at the time of application (excluding current High School students). All documents submitted with the application will become the property of the university. Successful applications remain on file.

All applicants must have completed the following course requirements in order to be considered for admission:

A full course credit in:
1. Science (Biology or Chemistry - both strongly recommended)
2. English
3. a Social Science (Anthropology, Family Studies, Geography, History, Law, Psychology, Sociology)

70% in each course is required. It is recognized that applicants apply to the program with varying educational backgrounds. Applicants can fulfill the courses required from their own backgrounds.

Applicants Directly from Ontario Secondary Schools

The following are the minimum Grade 12 U and M requirements under the Ontario Secondary School curriculum:
1. English U;
2. One of Biology U or Chemistry U (both are recommended);
3. One Grade U or M course in Social Science (History, Sociology, Psychology, Geography, Law);
4. Completion of additional Grade 12 U or M courses to total six credits;
5. Students must obtain a minimum grade of 70% in each of the three (3) required courses listed in points 1, 2, and 3 above and a minimum overall average acceptable to the Faculty.

Prior/Current College Diploma Studies

Applicants with Ontario College Studies or equivalent must have full courses that are equivalent to the Grade 12 U or M courses in the three required subjects as stated above. In addition, a minimum of 70% must be obtained in each of the three required subject areas and a minimum overall average of 70% in college work must be obtained. Applicants with CEGEP background should consult the Ontario Secondary School Course Equivalents Chart found in the Admission Requirements section of this Calendar.

Prior/Current University Students

Applicants with prior or current university studies, at the time of application must have Grade 12 U or M courses from high school or equivalent university courses in three of the required subject areas noted above. Students must have 70% in each of the three required subjects. In addition, the applicant's overall average from the ten best most recent course work must be a minimum of 70%.

Mature Students

Mature students must have completed the three required subjects as noted in the basic requirements, and have obtained a minimum grade of 70% in each course. Students who do not meet the basic academic requirements as listed below are advised to take Grades 12 U or M courses or introductory university level courses. The two years absence from formal studies clause may be waived for those who take Grade 12 or U or M course upgrading. The following University requirements for Mature Students also apply. A student must:
1. be at least 21 years old, or will be prior to the first day of classes for the session to which application is made;
2. have not attended secondary school for at least two years;
3. have never attended university;
4. have not been enrolled in a college diploma program within the last five years or have completed less than one year of college work.

Prior Midwifery Education or Experience

For applicants with prior Midwifery Education or Experience, Ryerson University, through the division of Continuing Education, offers the International Midwifery Pre-Registration Program. The purpose of this program is to provide internationally educated midwives with assessment and education which will prepare them to register as midwives in Ontario.

Aboriginal Applicants

Applicants who wish to be considered under the Aboriginal (Indian, Inuit or Metis, as recognized in the Constitution Act, 1982) application process will also be required to provide a letter of recommendion from their First Nation, Band Council, Tribal Council, Treaty, community or organizational affiliation. Aboriginal applicants will also be required to apply to the Ontario Universities Application Centre (http://www.ouac.on.ca) and complete a Midwifery on-line application form by February 1 of the year in which they are applying. All appropriate transcripts from secondary and post secondary education must be submitted to the Office of the Registrar by February 1.

Applicants must meet the same minimum academic criteria for admission as set out for the general pool of candidates.

Transfer Credit

Students with previous university education may be eligible for transfer credits for non-clinical courses in Levels I and II. Transfer credits will be determined on an individual basis. Please see Credit in Courses by Special Assessment in the Admission Requirements section of this Calendar.

Selection Procedure

The Midwifery Education Program has a limited number of placements and the admission process is very competitive. The admission requirements stated are minimum requirements. Preference will be given to applicants with the best qualifications. The actual standing required for admission in recent years has been an average in the low to mid 80's. The program has a two step selection procedure:

1. Assessment of academic eligibility.
2. Admission interview — 90 applicants will be invited to Hamilton for an interview. The interview process will consist of nine ten-minute interviews. Candidates must attend on the date and time specified. Applicants must be successful at stage one to be considered for stage two.

Offers of admission will be made following the interview process. Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

UNSUCCESSFUL APPLICANTS

Applications are not held over from one year to another. If an unsuccessful applicant wishes to reapply to the Midwifery Education Program, a new application, including transcripts and supplementary materials must be submitted.

APPLICATION FOR DEFERRED REGISTRATION

Deferred registrations are not normally granted in the Midwifery Education Program. Under unusual circumstances, applications for deferral will be reviewed by the Admissions Committee for those candidates offered a place in the program. The application of deferral must be submitted in writing no later than August 1 of the year for which deferral is requested. If granted, registration may be deferred for one year only.
APPLICATION DEADLINE
Submission of completed application forms to the Ontario Universities’ Application Centre and an on-line application to the program must be received by the University no later than February 1 of the year in which registration is expected. All certified transcripts from secondary and post-secondary education previously attended must be forwarded to the Office of the Registrar and received by February 1. Applications received after February 1 will not be considered.

Financial Information
In 2006-2007 the tuition fees for a student in Level I of the Midwifery Education Program were $4,530.89 for an eight month academic term. Supplementary fees are estimated at $275.00 per year.

Academic Regulations
In addition to meeting the General Academic Regulations of the University, students enrolled in the Midwifery Education Program will be subject to the following program regulations.

The Midwifery Education Program monitors and documents student academic responsibility found in the General Academic Regulations section of this Calendar.

STUDENT ACADEMIC RESPONSIBILITY
You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES
All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGS/SOLAR is available to them.

PROBATION
A student will be placed on probation if any of the following criteria is met. The student:
1. obtains a CA less than 6.0 in graded courses;
2. obtains a grade of less than C- in HTH SCI 1D06 or a grade of less than B- in MIDWIF 1D03 and 2G03;
3. obtains a grade of less than C- in more than one of HTH SCI 1C06, 1J03, 2M03, 3C04 and MIDWIF 2F03;
4. receives an F or a Fail/Unsatisfactory in any clinical course;
5. fails any one course.

If a student receives a CA of less than 6.0 (5.5 to 5.9), he/she may remain in the program, but will be placed on program probation for one reviewing period. A student may be on program probation only once. A student on probation at the completion of Level II. Fall term, must undertake remedial course work and remove the probationary status before proceeding to MIDWIF 2H15. If a student receives a CA of 3.5 - 5.4, he/she may transfer to another program for which he/she qualifies.

A student must obtain a minimum pass grade (D-) except in courses with a higher minimum grade requirement (see items 2. and 3. under Good Standing above) when a course is repeated and receive an overall CA of 6.0 at the completion of a probation period. Planned course work for any student on probation must be approved by the Academic Review Committee.

DEANS’ HONOUR LIST, GRADUATION WITH DISTINCTION, PROVOST’S HONOUR ROLL
Students will be evaluated for standing on the Deans’ Honour List, Graduation with Distinction and the Provost’s Honour Roll only upon completion of the program. Students will be named to the Deans’ Honour List and will Graduate with Distinction if they receive no failing, provisional or unsatisfactory grades in any courses throughout the program and achieve a CA of 9.5, on grade point average in the academic year or any semester course throughout the program.

For the Provost’s Honour Roll, students will be assessed if they have a CA of 12.0 and have not received a failing, provisional or unsatisfactory grade in any course throughout the program.

GRADUATION REQUIREMENTS
A student is eligible for graduation when all of the following criteria are met. The student must:
1. complete all required courses, including electives, with a CA of at least 6.0 including a minimum grade of C- in HTH SCI 1D06 and a minimum grade of B- in MIDWIF 1D03 or 2G03;
2. complete HTH SCI 1C06, 1J03, 2M03, 3C04, MIDWIF 2F03 with a minimum grade of C- with the exception of a D+ or D in one of those courses;
3. complete all clinical courses with a Pass/Satisfactory grade;
4. complete all courses for the degree within five years.

The practice of midwifery is regulated by the College of Midwives under the Midwifery Act, 1991 and the Regulated Health Professions Act, 1991.

The Midwifery Education Program monitors and documents students’ clinical experience in order that students meet minimum practice requirements to be eligible for registration to practice. Graduation from the Midwifery Education Program does not guarantee registration with the College of Midwives of Ontario. All applicants to the College must meet additional registration requirements. New graduates are required to work in an established practice for their first year of registration.

Regulatory requirements are subject to change from time to time.
The B.Sc.N. Program

The B.Sc.N. Program promotes the development of nursing as a caring, client-centred, scientific and humanistic profession. With an emphasis on problem-based, small group, self-directed learning, the program provides a general baccalaureate education in nursing for the preparation of professional nurses who will practise in a variety of health-care settings. Central to our mission is the preparation of nurses who will work to enhance the quality of health of individuals, families, communities and society. In fulfilling its mission, the B.Sc.N. Program promotes skills in its graduates to prepare them for life-long, self-directed learning, critical thinking, advocacy and collective action.

As students progress in the B.Sc.N. Program, they will find an increasing emphasis on interpersonal and communication skills, independent learning, and leadership qualities. Applicants should evaluate their own potential for developing abilities to interact with others and to assume leadership roles. Learning is a process of inquiry, a skill to develop as a life-long activity in an environment conducive to openness and sharing among faculty and students. Emphasis on small group tutorials and self-directed learning promotes the development of self-evaluation skills and critical thinking abilities. Extensive multimedia, laboratory and library resources support a belief in the importance of independent study. Students apply concepts from Nursing and related disciplines to their experiences in classroom and clinical settings. (Opportunities exist for international and out-of-clinical practice experiences.)

Evaluation by self, peers and faculty is part of an on-going assessment process of the achievement of clinical, course, and program objectives.

GOALS

Graduates of the McMaster University B.Sc.N. Program will be prepared to provide, facilitate and promote professional practice in a variety of health care contexts and with diverse clients (individual, family, group, communities, populations) who have stable and unstable outcomes and multi-factorial influences (internal and external) on their health status within an ethic of professional caring. Graduates will:

1. Provide nursing care reflective of primary health care principles.
2. Demonstrate sensitivity to client diversity and recognize the influence this has on professional and personal meaning, clients’ health and healing practices.
3. Demonstrate ability to establish, maintain and terminate therapeutic relationships with clients.
4. Demonstrate critical thinking in the assessment, planning and evaluation of client care through the synthesis and application of:
   - Validated knowledge and theories from nursing, the humanities, biological, psychological, social and public health sciences
   - Knowledge of the health care system
   - Knowledge of the client context
   - Knowledge of self
5. Engage in effective decision-making to set goals and establish priorities, going beyond the application of general rules to the application of unique combinations of principles and concepts.
6. Provide safe, ethical, competent care within established professional standards and guidelines.
7. Assess, plan and evaluate programs of care with clients and an interprofessional health care team and with partners from multiple sectors (i.e. education, social services, politics, etc.).
8. Demonstrate leadership and beginning competencies in managing a health care team, managing resources and coordinating health care.
9. Access and manage relevant information, required for professional caring, through the effective use of information technology.
10. Contribute to the body of nursing knowledge through demonstrating an inquiring approach to practice, identifying research questions, applying research findings, participating in research activities, and sharing research results with others.
11. Identify the need for appropriate change, create a climate for adapting to change in self and others, and contribute to effecting and evaluating change.
12. Participate in developing and implementing strategies for advocacy and political and social action on behalf of and with clients, and the nursing profession.
13. Recognize, develop and maintain the personal characteristics associated with professionalism:

- awareness of competencies and limitations.
- accountability for own actions
- commitment to the search for new knowledge
- advocacy for the voice of professional nursing
- commitment to self-directed, lifelong learning
- critical self-reflection and reflective practice.

Admission Policy and Procedure

ADMISSION POLICY

Enrollment in these programs is limited. Possession of the minimum admission requirements does not guarantee an offer of admission.

Application to the B.Sc.N. Program in the Faculty of Health Sciences implies acceptance of admission policies, procedures and the methods by which applicants are chosen for the program.

There are five streams of study leading to the completion of the B.Sc.N. degree. The Basic (A) Stream and Collaborative B.Sc.N. (D) Stream require four years of study, and are available to those applying directly from an Ontario secondary school with Grade 12 U or M courses; to those who have qualifications equivalent to Grade 12 U or M courses; and to applicants with other qualifications who meet the admission requirements.

The Post Diploma (B) Stream is available to Diploma Registered Nurses only. Graduates of an approved diploma nursing program who are admitted to the B.Sc.N. Program are granted 42 units of advanced credit and may complete the program in five academic terms if taken on a full-time basis.

The Post Diploma (E) Stream is available to Diploma Prepared Registered Practical Nurses only. Graduates of an approved Diploma Practical Nurse Program who are admitted to the B.Sc.N. Program are granted 30 units of advanced credit. Students may complete the program in three academic years if taken on a full-time basis.

The Basic-Accelerated (F) Stream is open to applicants who have completed another university degree or have a substantial number of university degree credits. This program is available on a full-time basis and requires five terms of study taken over one calendar and one academic year.

The requirements and application deadlines vary depending on the applicant's background. An applicant supplying documentation or evidence which, at the time or subsequently, is found to be falsified will be withdrawn from consideration. A student admitted to the program having submitted false documentation will be withdrawn.

Detailed medical information, including a record of completion of required immunizations, will be required upon acceptance into all Streams of the B.Sc.N. program and the Ontario Primary Healthcare Nurse Practitioner Certificate Program and annually thereafter. Evidence of CPR certification must also be presented annually: Basic Cardiac Life Support Certificate (BCLS) equivalent to the Heart and Stroke Foundation's Level C, Basic Rescuer (for Targeted Responder). Students are required to obtain an annual satisfactory Police Record Check.

The School of Nursing is committed to equality of opportunity. Disability is not grounds for exclusion from the School. Every attempt will be made to remove barriers and create accommodation provided any accommodation maintains the same academic and clinical standards for all students and does not require significant program change. Applicants should refer to the School of Nursing Admissions Procedures and Guidelines for Applicants with Disability available from the School of Nursing Admissions Office (905) 525-9140, ext. 22232 and consult the Centre for Student Development at (905) 525-9140, ext. 24711 or TTY (905) 528-4307.

ADMISSION PROCEDURE

Applicants from Ontario Secondary Schools (A) Stream

Applicants currently completing Grade 12 U or M courses apply through the Ontario Universities' Application Centre (OUAC). (See address below.) Application forms are available in secondary school guidance offices or on-line at http://www.ouac.on.ca/101. Applications for all studies beginning in September must be received by OUAC no later than May 1. Secondary schools will forward mid-term and final transcripts directly to OUAC in support of applications.

Applicants With Qualifications Equivalent to Ontario Secondary School (A) Stream

Applicants apply online to the Ontario Universities' Application Centre (OUAC) at http://www.ouac.on.ca. Applicants must also have official transcripts forwarded from their secondary school to the McMaster B.Sc.N. Program by May 1.

Return to:
Ontario Universities' Application Centre (OUAC)
170 Research Lane
Guelph, ON, N1G 5E2
http://www.ouac.on.ca

Applicants with Other Qualifications (A) and Post Diploma Applicants (B) and (E) Stream

Applicants apply online to the Ontario Universities' Application Centre (OUAC) at http://www.ouac.on.ca. They must download an application package from http://www.fhs.mcmaster.ca/nursing/ or contact the Admissions Coordinator (Nursing). Applications for all studies beginning in September must be received by February 15.

Ontario Universities' Application Centre (OUAC)
170 Research Lane
Guelph, ON, N1G 5E2
http://www.ouac.on.ca

Admissions Coordinator (Nursing)
McMaster University, HSC-2J34
1200 Main Street West
Hamilton, ON, L8N 3Z5

Collaborative B.Sc.N. Program (D) and (E) Streams

Applicants must contact the Ontario College Application Services (OCAS) for an application package. Applicants should also forward all official academic documentation, including all university transcripts if applicable, to the College they wish to attend.

Return to:
Ontario College Application Services (OCAS)
370 Speedvale Ave. West
P.O. Box 810
Guelph, ON N1H 6M4
http://www.ocas.on.ca

Applicants for Basic-Accelerated (F) Stream

Applicants apply online to the Ontario Universities' Application Centre (OUAC) at http://www.ouac.on.ca. The Supplementary Application must be downloaded from http://www.fhs.mcmaster.ca/nursing/ or contact the Admissions Coordinator (Nursing) (See above.) Applications for all studies beginning in September must be received by February 15.

Admission Requirements

A student who plans to enter the Undergraduate Nursing Program may qualify under one of the categories described below.

I. BASIC (A) STREAM

Applicants directly from Ontario Secondary Schools

Note: Normally to be considered in this category, applicants to the program must:

1. apply within two years of completion of the Grade 12 U or M course requirements and
2. not have attended any post secondary educational program during the two-year period.

The selection method for Ontario secondary school applicants is by academic qualifications. Early conditional offers of admission may be made in late March or early April based on the following:

- a) six appropriate mid-term/interim Grade 12 U or M course grades, or
- b) at least three final Grade 12 U or M course grades plus enrolment in the appropriate three additional Grade 12 U or M courses.

Offers based on interim grades will be conditional upon maintaining satisfactory performance on final grades.

REQUIREMENTS

The following are the minimum Grade 12 U and M requirements under the OSS curriculum:

2007-2008 ONLY:

1. English U;
2. One of Geometry and Discrete Mathematics U, Advanced Functions and Introductory Calculus U, or Mathematics of Data Management U;
3. Biology U;
4. Chemistry U;
5. Two additional Grade 12 U or M courses to total six.
EFFECTIVE 2008-2009:
1. English U;
2. One of Advanced Functions U, Calculus and Vectors U or Mathematics of Data Management U;
3. Biology U;
4. Chemistry U;
5. Two additional Grade 12 U or M courses to total six.

Applicants with Qualifications Equivalent to Ontario Secondary School
Applicants from other provinces and countries must achieve the equivalent to the qualifications listed above in their secondary school graduation year.

Applicants with Other Qualifications
For applicants not applying directly from Secondary School or without the necessary Grade 12 U or M or equivalents, selection is based on academic qualifications and a rating obtained on a questionnaire. The response to the questionnaire is assessed by teams normally representing the faculty, the students, or alumni, and the community. Applicants may be invited to a personal interview at McMaster. Applicants are responsible for their own travel expenses. Failure to attend the interview will result in cancellation of the application. The scores awarded by the assessors are final.

Applicants will be informed of the admission decision by mid-June. Where courses are in progress at the time of admission, the offer of admission will be conditional upon the applicant achieving a final Cumulative Average of B- in the required course work.

Applicants with a University Degree or with University Degree Credits
Applicants normally should:
1. achieve a Cumulative Average of at least B- in all university degree credits taken. A minimum of 12 units or equivalents are required. (These courses may be taken as a full-time or part-time student. University correspondence degree courses are acceptable.)
2. apply online to OUAC at http://www.ouac.on.ca using Form 105D and pay the required fees by February 15;
3. submit the completed Supplementary Application and four copies of the response to the questionnaire provided in the application package and all transcripts to McMaster by February 15.

Note: University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program. Applicants with significant university science courses should refer to admission requirements for the Basic-Accelerated (F) Stream.

Applicants From a Pre Health Sciences Program
Applicants who have successfully completed a pre health sciences program at an Ontario College of Applied Arts and Technology (CAAT) will be considered for admission to Level I of the B.Sc.N. program at all sites. Applicants who are currently registered in a pre health sciences program may be given a conditional offer of admission based upon interim grades. The offer of admission will be withdrawn if the applicant does not complete the full program or does not meet the required admission cumulative average.

Applicants normally must:
1. complete a full pre health sciences program at any Ontario College of Applied Arts and Technology (CAAT) including at least two terms (two credits) of Biology, Chemistry, Mathematics and English. Applicants will not be considered from applicants who possess one credit only in the required subjects;
2. achieve a cumulative average in the pre health sciences program that meets the minimum cut-off average of Ontario secondary school applicants to the program;
3. apply online to OUAC at http://www.ouac.on.ca using Form 105D and pay the required fees no later than February 15;
4. submit a completed original and three copies of the response to the questionnaire found on the Supplementary Application at http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm;
5. an official letter from the Dean/Director of the program in which the applicant is currently enrolled stating that the applicant is in good standing in that program;
6. course descriptions and outlines for all nursing and science courses for assessment of advanced credit.

II. POST DIPLOMA (B) STREAM
Selection is based on academic qualifications and the rating obtained on a questionnaire. The response to the questionnaire is assessed by teams normally representing the faculty, the students or alumni, and the community.
Applicants will be informed of the admission decision by mid-June. Applicants enrolled in diploma nursing programs at the time of application normally must be eligible to write College of Nurses of Ontario registration examinations no later than August of the year of application to the B.Sc.N. Program.

Applicants normally must:
1. possess a current College of Nurses of Ontario annual registration payment card or be eligible for reciprocity, or be eligible to write and subsequently pass the Registration examinations;
2. have an Ontario diploma in nursing or the equivalent with a minimum overall average of 2.7 (B-);
3. apply online at http://www.ouac.on.ca using Form 105D to OUAC and pay the required fees no later than February 15;
4. submit a completed original and three copies of the response to the questionnaire found in the application package,
5. official transcript for all university work taken;
6. an official letter from the Coordinator of Studies following admission to the program.

Note: University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

Applicants From Other Degree Nursing Programs
Applicants enrolled in a Nursing degree program at a university or in a college/university consortium may apply to transfer to the McMaster site to earn a McMaster B.Sc.N. degree. Applicants will not be considered for studies above Level II. Availability of space and placement in the program will be determined by the level of admission consultation with course planners and all potential applicants should contact the Coordinator of Studies to determine if there is space for transfer applicants.

Applicants must:
1. be currently enrolled in or have completed Level I of a B.Sc.N. Program with an overall Cumulative Average of at least B- (70%) and at least a B- average in nursing and science courses;
2. achieve a satisfactory score on a questionnaire comprised of two questions found on the Supplementary Application at http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.htm;
3. an official letter from the Dean/Director of the program in which the applicant is currently enrolled stating that the applicant is in good standing in that program;
4. course descriptions and outlines for all nursing and science courses for assessment of advanced credit.

III. COLLABORATIVE B.SCN. PROGRAM (D) STREAM (MOHAWK AND CONESTOGA SITES)
Admission requirements for students applying to the Mohawk and Conestoga sites of the McMaster B.Scn. program are equivalent to those for students applying to the B.Scn. Basic (A) Stream.

Applicants Directly from Ontario Secondary Schools
Normally to be considered in this category, applicants to the program must:
1. apply within two years of completion of the Grade 12 U or M requirements and
2. not have attended any post secondary educational program during the two-year period.
The following are the minimum Grade 12 U and M requirements under the OSS curriculum:

2007-2008 ONLY:
1. English U;
2. One of Biology U, Chemistry U, or Mathematics of Data Management U;
3. Biology U;
4. Chemistry U;
5. Two additional Grade 12 U or M courses to total six.

EFFECTIVE 2008-2009:
1. English U;
2. One of Advanced Functions U or Calculus and Vectors U or Mathematics of Data Management U;
3. Biology U;
4. Chemistry U;
5. Two additional Grade 12 U or M courses to total six.

Applicants with Qualifications Equivalent to Ontario Secondary School
Applicants from other provinces and countries must achieve the equivalent to the qualifications listed above in their secondary school graduation year.

Applicants with Other Qualifications
For applicants not applying directly from secondary school or without the necessary Grade 12 U or M course equivalents, selection is based on academic qualifications. To help decide how to qualify, applicants should contact the Office of the Registrar (Admissions), Gilmour Hall, Room 108, McMaster University, Hamilton, ON L8S 4L8.

Applicants with a University Degree or with University Degree Credits
Applicants should:
1. achieve a Cumulative Average of at least B- in all university degree credit courses taken. A minimum of 12 units or equivalent are required. These courses may be taken as a full-time or part-time student. University correspondence degree courses are acceptable. All university transcripts must be submitted to the College. Failure to do so will result in withdrawal of the offer of admission. University degree credit courses completed prior to admission will be assessed for advanced credit by the Chair, Nursing Program, at the site where application was made, following admission to the program.
2. apply to Ontario College Application Services (OCAS) along with the required fees by February 1. All applications must be received by OCAS on or before this date to be given equal consideration by the colleges. Please note that February 1 is not a deadline for submitting applications as OCAS will continue to process applications received after this date. You are encouraged, however, to submit your application as early as possible, especially in the case of oversubscribed programs where there are often enough applications from qualified applicants received by the equal consideration date (February 1) to fill the program.

Note: Transfer credit will not be granted for any pre health sciences courses.

Applicants From Other Degree Nursing Programs
Applicants who are enrolled in a Nursing degree program at another university or in another college/university consortium may apply to transfer to the Mohawk or Conestoga site to earn a McMasters B.Sc.N. degree. Applicants will not be considered for studies above Level II. The Post Diploma B.Sc.N. is not available at the College sites. Availability of space and placement in the program will be determined by the level Coordinator in consultation with course planners.

All potential applicants should contact the appropriate site to determine if there is space for transfer applicants. For Mohawk, contact the Chair, B.Sc.N. Program; for Conestoga, contact the Chair, Nursing Program.

Applicants must:
1. be currently enrolled in or have completed Level I of a B.Sc.N. Program with a cumulative average of at least B-(70%) and at least a B- average in nursing and science courses.
2. achieve a satisfactory score on a questionnaire comprised of two questions found on the Supplementary Application at http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.html.

Note: Applicants do not complete the Supplementary Application form.

Applications for transfer into the B.Sc.N. Program to commence studies in September must be received by the Ontario Colleges Application Service (OCAS) in Guelph no later than May 15. Applicants must submit the following to the Registrar's Office at the appropriate College by May 15:
1. official transcripts of all university work taken.
2. four (4) copies of the response to the questionnaire found on the Supplementary Application at http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.html.
3. an official letter from the Dean/Director of the program in which the applicant is currently enrolled stating that the applicant is in good standing in that program.
4. course descriptions and outlines for all nursing and science courses for assessment of advanced credit.

IV. POST DIPLOMA PRACTICAL NURSE (E) STREAM (McMASTER)
Selection is based on academic qualifications and the rating of the questionnaire. Selection is based on academic qualifications. The questionnaire is assessed by teams normally representing the faculty, the students or alumni and the community.

Applicants will be informed of the admission decision by mid June. Applicants enrolled in a diploma practical nurse program at the time of application normally must be eligible to write the College of Nurses of Ontario (CNO) practical nurse registration examinations no later than August of the year of application to the B.Sc.N. program.

Applicants normally must:
1. possess a current CNO annual registration payment card or be eligible to write and subsequently pass the Practical Nurses Registration Examination.
2. have a diploma in practical nursing (two year program) from an Ontario College of Applied Arts and Technology or equivalent with a minimum overall average of 75% or higher.

Note: Potential applicants who possess a certificate in practical nursing should seek upgrading to diploma practical nurse at the College of Applied Arts and Technology or apply to a basic B.Sc.N. program (see admission criteria for Streams A and D).
3. complete Form 105D on-line at http://www.ouac.on.ca and pay the required fees no later than February 15.
4. submit the Supplementary Application form found at http://www.fhs.mcmaster.ca/nursing/education/undergrad/undergradadmissions.html.
5. submit four copies of the response to the questionnaire as outlined in the Supplementary Application package, a photocopy of the current CNO annual registration payment card and transcripts to McMaster by February 15.
**DIPLOMA REGISTERED PRACTICAL NURSE (R.P.N.) TO B.S.C.N. PROGRAM (E) STREAM (MOHAWK AND CONESTOGA SITES)**

The program of study for Diploma Registered Practical Nurses Stream (E) prepares students for practice as Registered Nurses. Stream (E) students enter at Level II. Level II Nursing courses are designed to assist in the transition of students to baccalaureate studies. The curriculum is planned for three academic years of full-time study or up to seven years of part-time study. Upon successful completion of this program, the graduate will be awarded the B.S.C.N. degree by McMaster University.

Enrolment in this program is limited. Possession of the minimum admission requirements does not guarantee admission to the program. Selection is based on academic qualifications. Applicants normally must:

1. possess a current College of Nurses of Ontario (CNO) annual registration payment card or be eligible to write and subsequently pass the Practical Nurse Registration Examinations;
2. have a diploma in practical nursing (two-year program) from an Ontario College of Applied Arts and Technology or equivalent with a minimum overall average of 70% or higher.
3. apply to the Ontario College Application Services (OCAS) along with the required fees by February 1. All applications must be received by OCAS on or before February 1 to be given equal consideration by the college.

Note: University degree credit courses completed prior to admission will be assessed for advanced credit by the Office of the Coordinator of Studies following admission to the program.

**V. BASIC-ACCELERATED (F) STREAM**

The Basic-Accelerated (F) stream is available to those applying from a university science program of studies. Students may complete the program of studies in five academic terms. Normally, to be considered in this category, applicants to the program must:

1. achieve a cumulative average of at least 60% in all university degree credit courses taken.
2. complete a minimum of 54 units of university credit which include:
   - six units of Psychology
   - six units of Human Physiology or six units of Anatomy and Physiology
   - six units of Biochemistry (preferred) or six units of Chemistry and
   - three units of Statistics (recommended but not required).
3. apply online at http://www.ouac.on.ca using Form 105D to OUAC and pay the required fees no later than February 15;
4. submit the completed Supplementary Application and four copies of the response to the questionnaire provided in the application package and all transcripts to McMaster by February 15.

**PART-TIME STUDENTS**

It is possible to complete the B.Sc.N. Program on a part-time basis. University and program regulations governing full-time undergraduate students will govern part-time students although there are additional guidelines for part-time study. As enrolment is limited, places reserved for part-time students at each level will be restricted. Normally, nursing courses are available only during the day. Electives may be taken either in the day or evening. Counselling sessions will be available for part-time students after admission.

**UNSUCCESSFUL APPLICANTS (A), (B) AND (E) STREAMS**

Applications are not held over from one year to another. An unsuccessful applicant may reapply to the B.S.C.N. Program by submitting a new application, including supporting documentation.

**APPLICATION FOR DEFERRED REGISTRATION**

Deferred registration is granted only under exceptional circumstances to those candidates who have been admitted and have accepted the offer. Registration may be deferred for one year only. The request for deferral, outlining the reasons for the request, must be postmarked no later than July 31 of the year for which deferral is requested.

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**Curriculum for the B.Sc.N. Program**

**BASIC (A) STREAM**

The Faculty has planned the curriculum so that the study of nursing, the biological, psychological and social sciences, and the humanities are interrelated and span the entire program. In Level I, the amount of nursing experience is relatively small; the major proportion of study is in the behavioural and natural sciences. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed. Normally, because of timetabled constraints, courses must be taken in the level indicated in the curriculum.

**ELECTIVES**

Thirty units of electives are to be selected from disciplines of the student's choice, of which a minimum of 12 units are to be chosen from courses designated as Level II or above. Normally a maximum of nine units of electives may be selected from Nursing and Health Sciences elective courses. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. Program.

Basic (A) Stream students are eligible to enroll in the following COLLAB elective courses: COLLAB 2F03 (Mohawk site) and COLLAB 2K03 (Conestoga site). Please see COLLAB courses in the Course Listings section of this Calendar under Nursing Consortium (D) Stream for more information.

**REQUIREMENTS**

**LEVEL I: 32 UNITS**

<table>
<thead>
<tr>
<th>UNITS GRADED: 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 units HTH SCI 1AA3, 1B03, 1H06</td>
</tr>
<tr>
<td>8 units NURSING 1F04, 1G04</td>
</tr>
<tr>
<td>6 units PSYCH 1A03 and 1A3</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
<tr>
<td>1 course NURSING 1A00</td>
</tr>
</tbody>
</table>

**LEVEL II: 36 UNITS**

<table>
<thead>
<tr>
<th>UNITS GRADED: 24; UNITS PASS/FAIL: 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 units HTH SCI 2H03, 2H03</td>
</tr>
<tr>
<td>15 units NURSING 2L03, 2M03, 2N03, 2P03, 2Q03</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

**LEVEL III: 32 UNITS**

<table>
<thead>
<tr>
<th>UNITS GRADED: 24; UNITS PASS/FAIL: 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 units HTH SCI 3B03, 3C04</td>
</tr>
<tr>
<td>16 units NURSING 3S03, 3T03, 3U02, 3X04, 3Y04</td>
</tr>
<tr>
<td>9 units Electives</td>
</tr>
</tbody>
</table>

**LEVEL IV: 30 UNITS**

<table>
<thead>
<tr>
<th>UNITS GRADED: 16; UNITS PASS/FAIL: 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 units HTH SCI 4L02</td>
</tr>
<tr>
<td>22 units NURSING 4P04, 4Q04, 4J07, 4K07</td>
</tr>
<tr>
<td>6 units Electives</td>
</tr>
</tbody>
</table>

**TOTAL UNITS: 124**

**REGISTRATION TO PRACTICE NURSING**

On receiving the B.Sc.N. degree after successful completion of the (A) Stream of the B.Sc.N. Program, graduates are eligible to write the Canadian Registered Nurse Examination which is administered by the College of Nurses of Ontario (CNO). Application to write the examination is made through the Faculty of Health Sciences. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the R.N. registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

**DIPLOMA (B) STREAM**

The program of study for Diploma Registered Nurses is integrated with existing course offerings. The practice of nursing in diverse clinical settings will occur in all academic terms. The curriculum is designed to build on the existing knowledge and skills of the students, to prevent duplication of learning experiences and to prepare the students to function in an expanded role in community and institutional settings.

The curriculum is planned for five academic terms if taken on a full-time basis. If taken on a part-time basis, students are normally allowed six years after the first Nursing course to complete the program requirements.
ELECTIVES
Twenty-four units of electives are to be selected from disciplines of the student's choice, of which a minimum of 12 units are to be chosen from courses designated as Level II or above. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. Program.

REQUIREMENTS
ADVANCED CREDIT: 42 UNITS

LEVEL III: 45 UNITS
(Units Graded: 45)

TERMS 1 AND 2: 33 UNITS
21 units HTH SCI 1C07, 2C07, 3B03, 3C04
12 units NURSING 3N03, 3T03, 9V03
1 course NURSING 1A00

SPRING TERM: 6 UNITS
6 units Electives

SUMMER TERM: 6 UNITS
6 units Electives

LEVEL IV: 34 UNITS
(Units Graded: 22; Units Pass/Fail: 12)

TERMS 1 AND 2: 34 UNITS
2 units HTH SCI 4L02
20 units NURSING 4P04, 4Q04, 4S06, 4T06
12 units Electives

TOTAL UNITS: 124

REQUIREMENTS FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 2001
All B.Sc.N (B) Stream students who entered the program prior to September 2001 have the option of continuing under the curriculum in effect when they entered as published in the Calendar of the year of entry. Alternatively, students may take advantage of the program requirements which took effect in September 2001. All students are strongly encouraged to contact the Coordinator of Studies for individual counselling to decide upon their program of study. Students require a minimum of 121 units to graduate.

COLLABORATIVE B.Sc.N. (D) STREAM

CONESTOGA SITE (6385)

MOHAWK SITE (6386)

The Faculty has planned the curriculum so that the study of nursing, the physiological, psychological, and social sciences, and the humanities are interrelated and span the entire program. In Level I, the amount of nursing experience is relatively small; the major proportion of study is in the behavioural and natural sciences. The nursing component increases progressively through Levels II, III, and IV, as the study of natural sciences is completed. Normally, because of timetable constraints, courses must be taken in the level indicated in the curriculum.

ELECTIVES
The curriculum followed at both sites is equivalent to the curriculum for the B.Sc.N. Basic (A) Stream. However, the specified Psychology component and 15 units of elective courses are college-based courses which have been assigned the McMaster designation COLLAB and are open only to Nursing students at the Mohawk and Conestoga sites as specified in prerequisite statements. For course descriptions, please see COLLAB courses in the Course Listings section of this Calendar under Nursing Consortium (D) Stream. Mohawk and Conestoga students must take 15 units of COLLAB electives and 15 units of McMaster electives. Enrolment in some COLLAB courses may be limited. Thirty units of electives are to be selected from disciplines of the student's choice, of which a minimum of 12 units are to be chosen from courses designated as Level II or above. Normally a maximum of nine units of Nursing and/or Health Sciences electives may be selected. For some courses, the amount of duplication of required content will preclude their being used for elective credit in the B.Sc.N. Program.

LEVEL II: 30 UNITS
(Units Graded: 24; Units Pass/Fail: 6)
6 units HTH SCI 2H03, 2H03
15 units NURSING 2L03, 2M03, 2N03, 2P03, 2Q03
9 units Electives

LEVEL III: 32 UNITS
(Units Graded: 24; Units Pass/Fail: 8)
7 units HTH SCI 3B03, 3C04
16 units NURSING 3S03, 3T03, 3U02, 3X04, 3Y04
9 units Electives

LEVEL IV: 30 UNITS
(Units Graded: 16; Units Pass/Fail: 14)
2 units HTH SCI 4L02
22 units NURSING 4P04, 4Q04, 4J07, 4K07
6 units Electives

TOTAL UNITS: 123

REGISTRATION TO PRACTICE NURSING
On receiving the B.Sc.N. degree after successful completion of the (D) Stream of the B.Sc.N. Program, graduates are eligible to write the Canadian Registered Nurse Examination which is administered by the College of Nurses of Ontario (CNO). Application to write the examination is made through the college attended. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the R.N. registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

DIPLOMA R.P.N. (E) STREAM

MCMASTER SITE

CONESTOGA SITE

MOHAWK SITE

The program of study for Diploma Registered Practical Nurses Stream (E) prepares students for practice as Registered Nurses. It builds on the knowledge and skills acquired in the diploma practical nurse program. Stream (E) students receive 30 units of advanced credit and enter at Level II. The two Level II nursing courses are designed to assist in the transition of students to baccalaureate studies. Students are integrated with both Basic and Post-Diploma students for most courses. The curriculum is planned for three academic years of full-time study or six years of part-time study.

ELECTIVES
Twenty-four units of electives are to be selected from disciplines of the student's choice of which a minimum of 12 units are to be chosen from courses designated Level II or above. For some courses the amount of duplication of required content will preclude use for elective credit in the B.Sc.N. program. Normally a maximum of nine units of Nursing and/or Health Sciences electives may be selected. College site nursing students will take 12 units of Collab electives and 12 units of McMaster electives.

REQUIREMENTS
ADVANCED CREDIT: 30 UNITS

LEVEL II: 31 UNITS
(Units Graded: 31; Units Pass/Fail: 0)
11 units HTH SCI 1C07, 2C07
14 units NURSING 2A04, 2AA4, 3LL3
6 units Electives
1 course NURSING 1A00

LEVEL III: 32 UNITS
(Units Graded: 25; Units Pass/Fail: 7)
7 units HTH SCI 3B03, 3C04
13 units NURSING 2Q03, 3S03, 3T03, 3X04
12 units Electives

LEVEL IV: 30 UNITS
(Units Graded: 16; Units Pass/Fail: 14)
2 units HTH SCI 4L02
22 units NURSING 4P04, 4Q04, 4J07, 4K07
6 units Electives

TOTAL UNITS: 123
REGISTRATION TO PRACTISE NURSING

On receiving the B.Sc.N. degree after successful completion of the (E) Stream of the B.Sc.N. program, graduates are eligible to write the Canadian Registered Nurse Examination (CRNE) which is administered by the College of Nurses of Ontario (CNO). Application to write the CRNE is made through the Faculty of Health Sciences. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the R.N. registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

BASIC-ACCELERATED (F) STREAM

Students admitted to this stream will enter Level II of the B.Sc.N. Curriculum. Students are required to meet the residency requirements of the university as outlined in the General Academic Regulations section of this calendar.

REQUIREMENTS

ADVANCED CREDIT: 54 UNITS

UNITs TAKEN AT MCMASTER: 69

(UNITS GRADED: 41)

TERM 1: 15 UNITS

6 units HTH SCI 2H03, 3B03
9 units NURSING 2106, 3L13
1 course NURSING 1A00

TERM 2: 15 UNITS

3 units HTH SCI 2H03
12 units NURSING 2J04, 3S03, 3U02, 3V03

SPRING/SUMMER TERM: 11 UNITS

3 units HTH SCI 2H03
11 units NURSING 3T03, 3X04, 3Y04

TERM 4: 15 UNITS

4 units HTH SCI 3C04
11 units NURSING 4J07, 4P04

TERM 5: 13 UNITS

2 units HTH SCI 4L02
11 units NURSING 4K07, 4Q04

TOTAL UNITS: 69

REGISTRATION TO PRACTISE NURSING

On receiving the B.Sc.N. degree after successful completion of the (E) Stream of the B.Sc.N. program, graduates are eligible to write the Canadian Registered Nurse Examination (CRNE) which is administered by the College of Nurses of Ontario (CNO). Application to write the CRNE is made through the Faculty of Health Sciences. The CNO requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the R.N. registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

Nurse Practitioner Certificate Program

The Ontario Primary Health Care Nurse Practitioner Certificate Program is a post degree program. Degree-prepared nurses require 12 months on a full-time basis or up to 36 months on a part-time basis to complete the Nurse Practitioner Certificate.

ADMISSION REQUIREMENTS

Selection is based on academic qualifications, professional experience, clinical references, and personal questionnaire scores. The response to the questionnaire is assessed by team members. The College of Nurses of Ontario requires all applicants for registration to provide a recent criminal record synopsis (CIPC check) as part of the R.N. registration process. If you have any questions related to the Regulated Health Professions Act, please contact the College of Nurses of Ontario directly at 1-800-387-5526.

5. submit a copy of the current College of Nurses annual registration payment card, the relevant professional experience form, verification of employment form(s), two clinical reference forms, a personal questionnaire response, official transcripts from a degree nursing program, copies of any additional professional registrations, memberships or certificates listed on the relevant professional experience form (i.e., RNAO, CPR) to McMaster by March 1.

Preference will be given for:

• Ontario residents
• work experience in nursing that has been continuous
• practical experience in one or more of the following areas: primary health care, ambulatory care, public health, community health, long term care, emergency care or outpost nursing
• hands-on practical experience

REQUIREMENTS

TERMS 1 AND 2: 28 UNITS

(UNITS GRADED: 26)

26 units NURSPRAC 4AA5, 4AB5, 4P03, 4R03, 4TA5, 4TB5

TERM 1: 1 course NURSING 1A00

TERM 2: 13 UNITS

(UNITS GRADED: 10)

13 units NURSPRAC 4C13

TOTAL UNITS: 39

EXTENDED CLASS OF REGISTRATION (RN/EC)

Upon successful completion of the Ontario Primary Health Care Nurse Practitioner Certificate Program, nurses registered with the College of Nurses of Ontario are eligible to write the extended class licensing examination through the College of Nurses of Ontario (CNO). Updates regarding this process are available to registered students on the Nurse Practitioner network.

Nursing Leadership/Management Program

The Nursing Leadership/Management Program, which was previously administered by the University of Western Ontario and is currently endorsed by the Canadian Nurses Association, was transferred to McMaster in 1993. The Program is offered to Registered Nurses located throughout Canada and internationally by means of distance education. It is also offered locally through individual self-directed study and tutorial.

The course work is designed to familiarize Registered Nurses with the theory and clinical application necessary to function effectively in a formal or informal leadership position. Content includes theory and techniques of leadership, management, organizational development and change, motivation, labour relations, legal implications, ethics, finance and the Canadian Health Care System. Enrolment is by permission of the Coordinator. Further information may be obtained through the Program Office.

ACADEMIC REGULATIONS

Students in the Nursing Leadership/Management Program are subject to the General Academic Regulations of the University and the regulations of the B.Sc.N. Program.

CURRICULUM

6 units NURSING 4B06
1 unit NURSING 4C01
3 units NURSING 4I03
3 units NURSING 4F03
3 units NURSING 4H03

Students who are subsequently admitted to the Post Diploma (B) Stream of the B.Sc.N. Program will be granted credit for the equivalent courses in the B.Sc.N. Program.

Academic Regulations

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.
ACCESS TO COURSES

All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGS/SOLAR is available to them.

In addition to meeting the General Academic Regulations of the University, students enrolled in the B.Sc.N. Program shall be subject to the following program regulations.

Registration in the B.Sc.N. Program implies acceptance on the part of the student of the objectives of that program and the methods by which progress toward the achievement of those objectives is evaluated.

Since the academic regulations are continually reviewed, the University reserves the right to change the regulations.

The University also reserves the right to cancel the academic privileges of a student at any time should the student's scholastic record or conduct warrant so doing. The B.Sc.N. Program reserves the right to remove a student from a clinical placement or laboratory setting at any point during the term if the student exhibits unsafe clinical practice or behaviour that places the patient or others at risk. Such removal will result in the student receiving a grade of F in the course and may result in dismissal from the program. The clinical activities associated with any clinical course must be successfully achieved for attainment of a passing grade in the course.

If a student drops a required course, written confirmation of return must be submitted to the Coordinator of Studies by the end of the drop and add period of the term prior to the anticipated date of reregistration in the course. Failure to notify the Coordinator of Studies may result in students being refused registration in the course based on resource limitations.

B.Sc.N. Program Academic Regulations

Basic (A), (D); Post Diploma (B), (E); and Basic-Accelerated (F) Streams

A student must:

1. achieve a Cumulative Average (CA) of at least 3.5;
2. achieve a grade of at least C- in the graded Nursing and required Health Sciences courses. A grade of D-, D or D+ is permissible in six units of Level I Health Sciences courses (Basic (A) (D) Streams) or one Level I Health Sciences course (Post Diploma (B) and (E) Streams) and in only one required Health Sciences course beyond Level I (all streams);
3. achieve a Pass designation in all clinical courses and the clinical component of NURSING 1F04 and 1G04; or NURSING 2A04 and 2AA4.

The following courses are designated clinical courses:

• Basic (A) and (D) Streams: NURSING 2L03, 2P03, 3X04, 3Y04, 4J07, 4K07
• Diploma Registered Nurses (B) Stream: NURSING 4S06, 4T08
• Registered Practical Nurses (E) Stream: NURSING 3X04, 4J07, 4K07
• Basic-Accelerated (F) Stream: NURSING 2J04, 3X04, 3Y04, 4J07, 4K07

All clinical courses above Level I are evaluated on a Pass/Fail basis. Areas of excellence in practice are noted in a detailed evaluation summary for each course.

(A course for which credit has not been given may be repeated only when approval is given by the Coordinator of Studies in consultation with the program: Reviewing Committee.)

Post Diploma students must submit proof of current registration with the College of Nurses of Ontario before registration in Level IV of the Program is approved.

Nurse Practitioner Certificate Stream

A post-degree student must:

1. achieve a Cumulative Average (CA) of at least 3.5;
2. achieve a grade of at least C- in the graded Nursing and required Health Sciences courses with the exception that a grade of D-, D or D+ is permissible in Level I Health Sciences course and only once in required Health Sciences courses beyond Level I. Both post-diploma and post-degree students must:
3. achieve a Pass designation in the clinical component as well as a grade of B- in the theoretical component in each of NURSPRAC 4A05, 4AB5, 4C13, 4T05, 4TB5;
4. achieve a grade of B- in NURSPRAC 4P03, 4R03.

The following courses are designated clinical courses:

• NURSPRAC 4A05, 4AB5, 4C13, 4T05, 4TB5

CONTINUATION IN THE PROGRAM

Students are reviewed at the end of each term. To continue in the B.Sc.N. Program a student must obtain a CA of at least 3.5. A student whose CA is at least 3.0 may, at the discretion of the Coordinator of Studies in consultation with the program Reviewing Committee, proceed in the program and will be placed on program probation. A student may be placed on program probation only once during the program.

FAILURE

A student whose CA is less than 3.5, and who has not been granted program probation, may not continue in the program.

A student who fails to obtain a CA of 3.5 at the completion of the program probation may not continue in the program.

A student may normally repeat a level of work only once.

If a student fails to meet the minimum grade requirements in the required graded Nursing and required Health Sciences courses or a Pass designation in the clinical nursing courses, the student may, at the discretion of the Coordinator of Studies in consultation with the program Reviewing Committee, be allowed to repeat the course in which the minimum grade or Pass requirement has not been met. If a student fails to meet the minimum grade or Pass requirements after repeating the course, he or she may not continue in the program. A student may normally be allowed to repeat only one clinical and one non-clinical Nursing or Health Sciences course during the program.

Only one Nurse Practitioner course may be repeated. If a grade of less than B- or unsatisfactory is obtained in the Nurse Practitioner course on the second attempt, the student may not continue in the program.

Collaborative B.Sc.N. Program (D) Stream, R.P.N. to B.Sc.N. (E) Stream

Mohawk and Conestoga Sites

In addition to meeting the General Academic Regulations of the University, (please refer to the General Academic Regulations section of the Calendar, as well as the academic regulations specific to the School of Nursing, (please refer to Academic Regulations in the School of Nursing outline in this section of the Calendar), Mohawk and Conestoga B.Sc.N. students are also subject to the following regulations.

Program Approval: Selection of courses must be approved by the Chair of the Program at the site to which the student is admitted. Where the Calendar indicates that a faculty office, Associate Dean or Dean of Studies must be contacted, students should contact the Student Advisor at the appropriate site (Conestoga or Mohawk College). Before courses are selected, students are requested to determine the requirements for the program as outlined in the appropriate sections of this Calendar and to follow the instructions in the registration package.

Academic Standing: The College Reviewing Committees shall be comprised of members from the Colleges and the University; these Committees shall be chaired by the Coordinator of Studies (McMaster). Required to Withdraw: Students must follow the withdrawal procedures for the respective College.

Letters of Permission: Letters of Permission must be approved by the Student Advisor at the site to which the student is admitted.

Academic Records: Student files shall be kept at the respective College site for reference and audit purposes.
FACULTY OF HEALTH SCIENCES

Examinations: A Mohawk College, Conestoga College or McMaster student photo identification card is required at all examinations.

Travel Expenses: Students are responsible for arranging their own travel to and from learning settings external to the College and for covering any costs incurred. All students who register in the B.Sc.N. Program are expected to travel to any learning setting in Hamilton and surrounding area, including Halton, Peel, Brant, Haldimand-Norfolk Niagara and Wellington regions (Mohawk) and Kitchener-Waterloo and surrounding area, including Wellington, Brant and Halton regions (Conestoga).

Honours Biology and Pharmacology Program (Co-op)

This is a joint program between the Faculty of Health Sciences and the Faculty of Science (Department of Biology). The Pharmacology courses, which are run in a small group, problem-based format, are the responsibility of the Faculty of Health Sciences, drawn from the following departments: Biomedical Sciences, Medicine, Obstetrics and Gynecology, and Pathology.

Please see the Faculty of Science, Department of Biology section of this Calendar for admission requirements.

Medical Radiation Sciences Program

This Diploma-Degree program is offered jointly in a fully integrated format by McMaster University in partnership with Mohawk College of Applied Arts and Technology. Graduates are awarded the McMaster Bachelor of Medical Radiation Sciences degree as well as the Ontario College Advanced Diploma in Medical Radiation Sciences from Mohawk College.

Please see Medical Physics and Applied Radiation Sciences in the Faculty of Science section of this Calendar for admission requirements.
The Faculty of Humanities is dedicated to cultivating a teaching and research community which reflects the highest standards of our disciplines and to undertaking bold ventures in new arenas of interdisciplinary inquiry. We strive for a balance between the best traditions of Humanities education and the new forms of knowledge emerging within and at intersections of disciplines. By learning from past and pressing issues facing our global world today, we promote advances in knowledge that make innovative, positive differences in diverse peoples’ lives.

We provide a research-intensive educational environment in which students learn to value independent thinking and critical reflection on the nature of knowledge and how knowledge can be used to better the human condition. Our mission is to ensure that students acquire the analytical skills, historical depth, and appreciation of diverse cultures needed to assume leadership roles as responsible, ethical, and path breaking scholars, cultural workers, creative artists, or policy makers. We prepare our students to be thoughtful and engaged citizens in a global world. The attainment of precise knowledge and fresh insights through lectures, class discussions, reflection, analysis and writing is the essence of study in the Faculty of Humanities’ seven academic units. These are:

- School of the Arts
- Department of Classics
- Department of Communication Studies and Multimedia
- Department of English and Cultural Studies (English; Combined Honours in Cultural Studies and Critical Theory)
- Department of French
- Department of History
- Department of Linguistics and Languages (German, Hispanic Studies, Italian, Japanese, Polish, Russian)
- Department of Philosophy

In addition, the Faculty offers the following interdisciplinary programs and one Interdisciplinary Minor:

- Combined Honours in Comparative Literature
- Honours Linguistics
- Honours Linguistic Cognitive Science
- Combined Honours in Peace Studies
- Combined Honours in Women's Studies
- Combined B.A. in Indigenous Studies
- Interdisciplinary Minor in Archaeology

**PROGRAMS AND DEGREES**

**A. Level I Programs**

**HUMANITIES I**

**PROGRAM NOTES**

1. A full-course load for Humanities I is 30 units. (The final digit in course numbers indicates the unit weight of a course. A 6-unit course is taught from September to April and a 3-unit course is a half-year course which may be taught either from September to December or January to April.) Admission to a Level I program normally requires completion of six units of the relevant subject. In order to be considered for admission to a Level II program, students should consult the admission statements for the Level II programs when selecting their Level I courses.

2. The Faculty offers INQUIRY 1H03, Inquiry in the Humanities. Humanities I students may choose this course as an elective. For a course description see Inquiry in Humanities in the Course Listings section of this Calendar.

3. Humanities I students are permitted to take up to 12 units of work in any single subject.

4. Students with a Grade 12 U course in Greek or Latin will register for six units of Level II Greek or Latin in lieu of the corresponding 1203 and 12Z3 courses.

5. Humanities I students are restricted to taking no more than 12 units of introductory language courses.

6. ART 1F03, 1FF3: Entrance to any Honours Art Program requires the permission of the School of the Arts as these programs and courses have limited enrolments. Students who wish to enrol in ART 1F03 and 1FF3 must first complete a portfolio interview. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who contact the Office of the School of the Arts before March 1 to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits.) The portfolio should contain a variety of works in different media that represent the applicant’s creative abilities and interests. Applicant in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. In exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs. Acceptance into ART 1F03 and 1FF3 will be verified with written confirmation from the School of the Arts. The School of the Arts verification and a Letter of Acceptance from the University guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under School of the Arts programs in this section of the calendar. Applicants for this course should use the MHA OUAC code.

7. Students wishing to take Music courses other than MUSIC 1A03 or 1A3 must make arrangements with the School of the Arts for qualifying tests.

**COURSE LIST**

**ART** 1F03, 1FF3 (See Note 6 above.) Students in ART 1F03 and 1FF3 must also register in SCIENCE 1A00 when completing their registration.

**ART HIST**

1A03, 1A3

**CLASSICS**

1A03, 1B03, 1M03

**CLST**

1A03

**COMP LIT**

1A03, 1A3

**CSCST**

1B03, 1BB3

**ENGLISH**

1A03, 1A3, 1B03, 1BB3, 1C06

**FRENCH**

1A06, 1K06, 1Z06

**GREEK**

1Z03, 1ZZ3

**HISTORY**

1A03, 1A3, 1B03, 1BB3, 1M03

**LATIN**

1Z03, 1ZZ3

**LINGUIST**

1A03, 1A3

**MMEDIA**

1A03, 1B03

**MUSIC**

1A03, 1A3, 1CC3, 1D03, 1Y03, 1YY3 (See Note 7 above.)

**PEACE ST**

1A03, 1B03

**PHILOS**

1A03, 1B03, 1C03, 1D03, 1E03

**THTR&FLM**

1A03, 1B03

**WOMEN ST**

1A03, 1A3
SECOND LANGUAGE PROFICIENCY

Students embarking on Humanities programs should be aware that most graduate schools require, for admission, proficiency in at least one, and frequently two, languages other than English. In this Faculty, proficiency in at least one language other than English is regarded as an essential tool for students interested in Combining the Literature and Linguistics. Generally, proficiency in more than one language is a hallmark of most highly-qualified Humanities’ graduates seeking the widest range of post-graduation academic and employment opportunities.

For students wishing to acquire a reading knowledge of French, a summer course, FRENCH 4R06 is offered in May-June. This course is intended to prepare current and incoming graduate students for the French proficiency test administered by some departments. Certain graduate programs recognize a passing mark in this course as fulfillment of the second language requirement.

PART-TIME STUDY

Students wishing to enter any program offered by the Faculty of Humanities and pursue a program on a part-time basis should consult the appropriate Departmental Counselor(s) before making their plans.

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES

All undergraduate courses at McMaster have an enrollment capacity. The University is committed to making every effort to accommodate students in required courses so that they are able to complete program admission requirements, course requisites and courses required for their program of study in a timely manner. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. Where students are selecting from a list of required courses, access to a specific course is not guaranteed when there is another course available to meet a specific degree requirement.

All students are encouraged to register as soon as MUGS/SOLAR is available to them.

Students enrolled in Humanities programs, in addition to meeting the general Academic Regulations of the University, shall be subject to the following Faculty Regulations and Policies.

ADMISSION TO LEVEL II PROGRAMS

The dates for application may vary somewhat from year to year; however, the specific dates and information will be posted on campus and outlined in the campus newspaper. It is the student’s responsibility to participate in these activities.

1. In February, a Majors Fair is held by departments in the Faculty of Humanities to discuss undergraduate programs, course offerings, career opportunities, etc.

2. Mid-March to Mid-April, students seeking admission to a Level II program for the following Fall/Winter session, especially for a limited enrollment program such as Multimedia, must complete an application for admission to Level II through MUGS. The application allows students to rank four program choices, and students will be notified of their eligibility for these choices on their grade reports in June.

TRANSFER TO THE FACULTY OF HUMANITIES

Students from other Faculties are able to transfer to degree programs offered by the Faculty of Humanities provided that they have obtained a Cumulative Average of at least 3.5 and have completed the necessary requirements for admission to a program.

REINSTATEMENT TO THE FACULTY OF HUMANITIES

A student who may not continue at the University may apply for reinstatement; however, reinstatement is not automatic or guaranteed. Application for reinstatement must be made to the Office of the Registrar using the Reinstatement Request Form by the deadline for the session. See the Sessional Dates section of this Calendar.
The form should explain the reasons for the student’s inadequate performance, corroborated by two Letters of Reference from qualified professionals or employers, and should include relevant documentary evidence, for example a letter from a physician outlining any medical condition that might have affected the student’s academic performance or final grades. Reinstatement cases will be carefully screened and the evidence considered will include the student’s academic performance before and after admission to McMaster, as well as the nature of the reasons cited in the application letter, the Letters of Reference, and the accompanying documentation.

If students are reinstated at the University, their Cumulative Average will be re-set to 0.0 on zero units, although students may (at Faculty discretion) retain credit for prior work. Following reinstatement, students will be on academic probation and must complete a minimum of 60 units of work after reinstatement to be eligible for Graduation with Distinction or other recognition based on the Cumulative Average.

If at any review after reinstatement the student’s Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

COURSE SELECTION AND COURSE CHANGES

Students are responsible for ensuring that their course selection meets the requirements of their degree program in which they are registered, that prerequisites have been met, and that the appropriate permission(s) has been obtained, if required. They should review their personal degree audit each time they cancel or add courses, and contact an Academic Advisor in the Office of the Dean of the Faculty of Humanities if they have questions, particularly if the degree audit shows unused courses. Students should also be aware that changes to their course load may affect their fees and their eligibility for scholarships and financial aid such as OSAP.

OVERLOAD

Fall/Winter Session: Normally students may not register in more than 30 units during the Fall/Winter Session (33 units for students in Music I). A student with outstanding deferred examinations or incomplete term-work will not be permitted to overload in the following term. Students may take an overload up to six units under the following circumstances:

1. If a student has a Sessional Average of at least 7.0 in the immediately preceding review period, or
2. If the student is registered in the final level or his/her program.

Spring/Summer Session: Students wishing to register in more than 12 units during the Spring/Summer Session or more than six units in either term of that Session, may do so only with the permission of the Office of the Associate Dean, Humanities.

SUMMER SCHOOL

Students who have been granted deferred examination or term-work privileges for courses taken in the preceding Winter session must secure the advance permission of the Office of the Dean of the Faculty of Humanities before registering in Spring/Summer courses. A decision will be made based upon the academic record of the student and the amount of work outstanding.

LETTER OF PERMISSION

Students in good academic standing who wish to attend another university to take courses for credit toward a McMaster degree, must first request a Letter of Permission from the Office of the Dean of the Faculty of Humanities. A Letter of Permission is automatically cancelled if a student is placed on academic probation, program probation, or required to withdraw from the University. Students should take note of any conditions on the Letter of Permission that might apply, including the requirement of a grade of at least C- for transfer credit. Courses taken at another university cannot be used to satisfy the University's minimum residence requirement, will not be included in the calculation of the averages at McMaster, and therefore cannot be used to raise standing. The transcript designation will read COM, indicating Complete, when a C- or better is attained. It is the student’s responsibility to ensure that an official transcript from the host university is sent to the Office of the Dean of the Faculty of Humanities to receive credit for work taken.

SUMMER IMMERSION PROGRAMS IN FRENCH

Students must obtain approval from the Office of the Dean of the Faculty of Humanities prior to participating in any language immersion program.

The government-sponsored summer language bursary program offers university students the opportunity to take French courses at a large number of accredited institutions. Students wishing to attend another university in order to participate in a language immersion program may do so with the consent of the Office of the Dean of the Faculty of Humanities, (b) submit detailed course descriptions for assessment, and (c) obtain a Letter of Permission.

Students registered in a program in French may take a maximum of six units of credit in this manner as elective work only. Students not registered in a program in French may take up to 12 units of credit.

EXCHANGE PROGRAMS WITHIN CANADA

Information concerning student exchanges can be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Centre for Student Development, International Student Services.

THIRD YEAR STUDY ELSEWHERE/HUMANITIES STUDY ABROAD

Humanities Study Abroad During Level III of Honours Programs

There are two ways to undertake international studies during Level III of an Honours program: (i) a Formal Exchange Program or (ii) a Third Year Study Elsewhere Program.

(i) Formal Exchange Program

Formal Exchange Programs are those in which McMaster University has an agreement with another institution involving a temporary exchange of students. Exchange students register and pay tuition fees and supplementary fees at McMaster. No tuition is paid at the other institution. See the General Academic Regulations section in this Calendar and the sections on Eligibility and Application below.

(ii) Third Year Study Elsewhere Honours Program

Qualified Level III students may undertake studies at a university abroad for one or two terms in the Third Year Study Elsewhere Program. This program is not open to students unless they have completed 60 units of work at McMaster University. Details are as follows:

Students register at McMaster but do not pay tuition to McMaster University. In addition to paying tuition fees at the other institution, students must pay all associated travel, study and living expenses. See the General Academic Regulations section in this Calendar and the sections on Eligibility and Application below.

Eligibility for Study Abroad

Students interested in applying for this program should consult Rowena Muhic-Day, the Career Services, Liaison and Study Abroad Coordinator, McMaster New Hall, Room 102/A and the study abroad office of their faculty department(s) or School approximately one year before planning to begin their study abroad (i.e. during the Fall term of the year in which they enter Level III). A plan for the completion of the academic program, approved by the program counsellor(s), must be submitted together with the application to the Coordinator no later than the end of January. However, application for some exchanges may be due as early as December.
Programs Offered by The Faculty of Humanities

School of the Arts

WEB ADDRESS: http://sota.humanities.mcmaster.ca

The School of the Arts offers programs in:

- Art
- Art History
- Music
- Theatre & Film Studies

In addition, Minors are available in: Art History, Music and Theatre & Film Studies.

Programs in Art and Art History

Note

Students intending to do graduate work in the field of Art History should note that most universities offering such programs require undergraduate work in French, German or Italian for admission. These students are strongly encouraged to include one of these language courses as early as possible in their program.

Honours Arts & Science and Art History (B.Arts.Sc.; See Arts & Science Program)

Honours Art

2028

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

Admission

Enrolment in Honours Art is limited. Selection is based on academic achievement but requires, as a minimum, the successful completion of ART HIST 1A03 and 1AA3.

Notes

1. Students in Honours Art must complete the following courses before registering in Level III or IV Art courses: ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3, 3D03, 3E06, 4C06

2. Students must achieve a minimum grade of B- in ART 3E06 before registering in ART 4C06

3. Because ART HIST 2D03 is required in all Art History programs, students registered in the Combined Honours Art and Art History program will substitute three units elective for ART HIST 2D03.

4. Students must achieve a minimum of B- in ART 3E06 before registering in ART 4C06.

Requirements

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

45 units ART 2A03, 2AA3, 2B03, 2BB3, 2C03, 2CC3, 2F03, 2FF3, 3D03, 3E06, 4E12

9 units from ART 3F03, 3G03, 3H03, 3I03

6 units ART HIST 2D03, 3AA3

6 units Levels III and IV Art History

3 units Levels II, III or IV Art History

21 units Electives

Combined Honours in Art and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

Admission

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in ART HIST 1A03 and 1AA3.

Notes

1. Students combining Honours Art History with Honours Art must not register in ART HIST 3P03. These students will be required to substitute three units of Level III or IV Art History in lieu of ART HIST 3P03.

2. Before choosing Level III courses, students should become familiar with the prerequisites for Level IV courses.

Requirements

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

18 units ART HIST 2A03, 2B03, 2C03, 2D03, 2I03, 2Z03

9 units Level III Art History

12 units Levels III and IV Art History

6 units from ART HIST 4AA3, 4BB3, 4C03, 4E03, 4H03, 4V03, 4X03

45 units Electives

B.A. in Art History

1029

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

Requirements

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

18 units ART HIST 2A03, 2B03, 2C03, 2D03, 2I03, 2Z03

6 units Level III Art History

3 units from ART HIST 4AA3, 4BB3, 4C03, 4E03, 4H03, 4V03, 4X03

9 units Levels III and IV Art History

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Electives to total 120 units
ADMISSION
Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in ART HIST 1A03 and 1AA3.

REQUIREMENTS
90 units total (Levels I to III)
30 units from the Level I program completed prior to admission into the program
9 units ART HIST 2A03, 2B03, 2C03
6 units from ART HIST 2D03, 2G03, 2Z03
15 units Levels III and IV Art History
30 units Electives

Minor in Art History
24 units of Art History, of which no more than six units may be from Level I

PROGRAMS IN DRAMA
(SEE PROGRAMS IN THEATRE & FILM STUDIES)

PROGRAMS IN MUSIC

NOTES
1. Completion of a Music degree requires considerable daytime attendance.
2. Normally, students who possess an undergraduate degree in Music will not be admitted to a B.Mus. degree program as a second undergraduate degree.

MUSIC I
Requirements
Students admitted to Music I must complete 33 units of work as follows:
21 units MUSIC 1C3, 1D03, 1E06, 1G03, 1Y03, 1YY3
12 units Electives

Honours Music (B.Mus.)
Requirements
Students wishing to enter this program must complete an application for admission to Level II on MUGS1 mid-March to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 6.0.

NOTES
1. The courses appearing in Course List 1 are specifically intended to prepare students to attend a Faculty of Education and for a career in school and music teaching. Students interested in Music Education are advised to consult the Music Counsellor during their first year for advice on fulfilling the entrance requirements of Faculties of Education.
2. Students who intend to pursue graduate studies in music or who wish to use the music degree as preparation for post-graduate studies in other professions should select a significant number of the courses in Course List 2.

Course List 1
MUSIC 3A03, 3J03, 3K03, 3L03, 3M03, 3N03, 3O03, 3P03, 3V03, 4K03, 4L03, 4M03, 4N03, 4OC3, 4OI3, 4PO3, 4Q03, 4V03

Course List 2
MUSIC 3CM3, 3CT3, 3H03, 3Y03, 3YY3, 4C03, 4H03, 4R03, 4Y03

Course List 3
MUSIC 2A03, 2F03, 2I03, 2II3, 2Z03, 3G03, 3T03, 3U03, 3Z03, 4G03, 4S03, 4U03, 4Z03, 4Z23

Course List 4
MUSIC 3E03, 3E06, 3SS3, 4E03, 4E06, 4S33 (Lesson fees are charged to students taking these courses.)

Requirements
123 units total (Levels I to IV)
33 units Music I
24 units MUSIC 2CC3, 2D03, 2E06, 2G03, 2H03, 2Y03, 2YY3
3 units from MUSIC 2A03, 2F03, 2I03, 2II3, 3T03, 3U03
24 units from Course Lists 1 and 2
9 units from Course Lists 3 and 4
30 units Electives

Combined Honours B.A. in Music and Another Subject
Students wishing to enter this program must complete an application for admission to Level II on MUGS1 mid-March to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 6.0.

NOTES
1. Students from another Level I program may be admitted with a Cumulative Average of at least 3.5, a weighted average of 4.0 in MUSIC 1A03 and 1AA3, and a successful audition.
2. Students registered in the B.A. Music program who wish to transfer into the Honours B.Mus. program must apply through the Dean's Office before the end of classes in their final year of study.

Course List 1
All Level II, III and IV Music courses, except MUSIC 2G03, 3G03, 4G03

Requirements
90 units total (Levels I to III)
33 units Music I program
15 units MUSIC 2CC3, 2D03, 2E06, 2H03, 2Y03, 2YY3
12 units from Course List 1
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
12 units Electives to total 120 units

B.A. in Music
Students wishing to enter this program must complete an application for admission to Level II on MUGS1 mid-March to be considered for admission.

ADMISSION
Completion of Music I and a Cumulative Average of at least 3.5.

NOTES
1. Students from another Level I program may be admitted with a Cumulative Average of at least 3.5, a weighted average of 4.0 in MUSIC 1A03 and 1AA3, and a successful audition.
2. Students registered in the B.A. Music program who wish to transfer into the Honours B.Mus. program must apply through the Dean's Office before the end of classes in their final year of study.

Course List 1
All Level II, III and IV Music courses, except MUSIC 2G03, 3G03, 4G03

Requirements
90 units total (Levels I to III)
33 units Music I program
15 units MUSIC 2CC3, 2D03, 2E06, 2H03, 2Y03, 2YY3
12 units from Course List 1
30 units Electives

Minor in Music
24 units of Music of which no more than nine units may be from Level I, subject to the prerequisites and qualifying tests specified in this Calendar.

DIPLOMA IN MUSIC PERFORMANCE
The Diploma is intended to recognize a concentration in the area of music performance and is available to two distinct groups of people:
1. Students who are enrolled in, or graduates of, a Music degree program at McMaster; and
2. Students enrolled in, or graduates of, other McMaster degree programs, as well as musicians in the community, such as graduates from the Royal Conservatory of Music, Mohawk College, or other universities, etc., who wish to receive formal recognition for their musical achievements.

GROUP 1 - MCMASTER STUDENTS
ADMISSION
Registration in, or completion of, a degree program in Music. Students should meet with the Academic Counsellor for Music in the School of the Arts as early as possible in their degree program.

GROUP 2 - OTHERS
ADMISSION
Completion of a music audition/examination consisting of:
1. Demonstration of technique (a level equivalent to at least honours standing in Grade 8 of the Royal Conservatory of Music);
FACULTY OF HUMANITIES

2. Performance (approximately 20 minutes duration) of two or three varied pieces of your choice (approximately Grade 8 level), including at least one from the 20th century;

3. Ear test appropriate to the Grade 8 honours performance level;

4. Written examination of rudiments of theory (Grade 2 level);

5. Interview.

6. MUSIC 1E06 or equivalent, e.g., A.R.C.T. (Associate of the Royal Conservatory of Music).

In lieu of the above, students concentrating in jazz must complete an audition demonstrating equivalent experience in jazz performance.

Auditions take place between January and March. Applicants must contact the School of the Arts to arrange for an audition. Advanced credit, up to a maximum of 15 units, may be determined on an individual basis.

REQUIREMENTS

The Diploma will require completion of 24 units as follows:

- 15 units from MUSIC 2E06 (or 2EE6); 3E06 (or 3EE6); 3SS3, 4E03, 4SS3, 4U03
- 9 units MUSIC 4E09
- Lesson fees: Lesson fees are charged over and above tuition for MUSIC 2E06, 2EE6, 3E06, 3EE6, 3SS3, 4E09 and 4SS3. Students registered in Honours Music will not be charged extra fees for MUSIC 2E06.
- For those registered in a degree program at McMaster University, MUSIC 4E09 must be taken over and above the total number of units required for a McMaster degree. Because this course may not be used for credit towards any McMaster degree, students pursuing the Diploma must plan their work to accommodate nine extra units.

PROGRAMS IN THEATRE & FILM STUDIES

The School of the Arts offers a broadly based program of study in the history, theory, and critical understanding of dramatic performance in both live and recorded media. Program requirements at Level II are designed to expose students to the breadth of the study. Level III courses offer more specific approaches to the study of theatre and film. A limited amount of student specialization within the program is possible at this level. The Honours Seminars at Level IV focus on independent research. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

Honours Arts & Science and Theatre & Film Studies

(B.Arts.Sc.; See Arts & Science Program)

NOTE

Students registered in Honours Theatre & Film Studies are encouraged to complete courses in related art forms.

Honours Theatre & Film Studies

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in THTR&FLM 1A03 and 1B03.

NOTE

A number of courses that directly pertain to Theatre & Film Studies are offered by other departments: Classics, Comparative Literature, English and Cultural Studies, French, Kinesiology and Women's Studies. These are recommended as electives listed at the end of the Theatre & Film course descriptions. Up to nine units from the list may be made available as substitutes for Theatre & Film courses, and counted toward the fulfillment of a program in Theatre & Film Studies. Students are advised that there may be restrictions on enrolment in these courses.

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

12 units Level II Theatre & Film courses with at least nine units from THTR&FLM 2A03, 2BB3, 2C03, 2D03, 2E03, 2F03 (Students may take only one of THTR&FLM 2AA3 or 2BB3.)

18 units Level III or IV Theatre & Film

6 units Level IV Theatre & Film courses including at least three units from THTR&FLM 4C03, 4D03, 4E03, 4F03

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Electives to total 120 units

B.A. in Theatre & Film Studies

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION

Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in THTR&FLM 1A03 and 1B03.

REQUIREMENTS

90 units total (Levels I to III)

30 units from the Level I program completed prior to admission into the program

12 units Level II Theatre & Film courses with at least nine units from THTR&FLM 2A03, 2BB3, 2C03, 2D03, 2E03, 2F03 (Students may take only one of THTR&FLM 2AA3 or 2BB3.)

12 units Level III or IV Theatre & Film

36 units Electives

Minor in Theatre & Film Studies

24 units of Theatre & Film

DEPARTMENT OF CLASSICS

WEB ADDRESS: http://www.humanities.mcmaster.ca/~classics

Honours Arts & Science and Classics

(B.Arts.Sc.; See Arts & Science Program)

NOTES

1. Students in a Classics program may choose courses from the following subfields: Ancient History and Society, Ancient Philosophy, Classical Archaeology and Art History, Classical Literature in Translation, Greek Language and Literature, Latin Language and Literature.
2. With the approval of the Department of Classics and the Office of the Dean of the Faculty of Humanities, students who have completed 60 units of work of any Honours program in Classics may replace all or part of their Level III work by courses of study at a university or equivalent institution abroad. Consult the Department for further details.

3. Students may receive up to six units of credit for archaeological field work at approved Classical sites. Consult the Department for further details.

4. Students are encouraged to include at least six units of Greek or Latin in their program. GREEK 1203, 1ZZ3 and LATIN 1Z03, 1ZZ3, if not completed in the Level I program, may be taken as elective courses. Students intending to do graduate work in the field of Classics should note that most universities offering such programs require several years of undergraduate work in both Greek and Latin for admission. These students are strongly encouraged to include Greek and Latin courses as early as possible in their program.

5. Students intending to do graduate work in the field of Classics may wish to include an independent study course (CLASSICS 4T03) in the final level of their program.

PROGRAMS FOR STUDENTS ENTERING IN 2007-2008

Honours Classics

Students wishing to enter this program must complete an application for admission to Level II on MUGS1 in mid-March to be considered for admission.

ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 and a grade of at least B- in three units of Level I Classics, Greek or Latin. (Students with Grade 12 Greek U may substitute three units of Level II Greek; students with Grade 12 Latin U may substitute three units of Level II Latin.)

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program
15 units Level II Classics, Greek, Latin (may include Level I Greek or Latin)
15 units Level III Classics, Greek, Latin (may include Level II Greek or Latin)
6 units Level IV Classics, Level III or IV Greek, Level III or IV Latin
12 units Levels II, III, IV Classics, Greek or Latin
42 units Electives

Combined Honours in Classics and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGS1 in mid-March to be considered for admission.

ADMISSION

Completion of any Level I program and a Cumulative Average of at least 6.0 and a grade of at least B- in three units of Level I Classics, Greek or Latin courses. Students with Grade 12 Greek U may substitute three units of Level II Greek; students with Grade 12 Latin U may substitute three units of Level II Latin.

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program
12 units Level II Classics, Greek, Latin (may include Level I Greek or Latin)
9 units Level III Classics, Greek, Latin (may include Level II Greek or Latin)
6 units Level IV Classics, Level III or IV Greek, Level III or IV Latin
9 units Levels II, III, IV Classics, Greek or Latin
36 units Courses specified for the other subject (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

B.A. in Classics

Students wishing to enter this program must complete an application for admission to Level II on MUGS1 in mid-March to be considered for admission.

ADMISSION

Completion of any Level I program and a Cumulative Average of at least 3.5 and a grade of at least C- in three units of Level I Classics, Greek or Latin courses. (Students with Grade 12 Greek U may substitute three units of Level II Greek; students with Grade 12 Latin U may substitute three units of Level II Latin.)

REQUIREMENTS

90 units total (Levels I to III)

30 units from the Level I program completed prior to admission into the program
9 units Level II Classics, Greek, Latin (may include Level I Greek or Latin)
9 units Level III Classics, Greek, Latin (may include Level II Greek or Latin)
6 units Levels II and III Classics, Greek, Latin (may include Level I Greek or Latin)
36 units Electives

PROGRAMS FOR STUDENTS ENTERED PRIOR TO SEPTEMBER 2007

Honours Classics

(PROGRAM A: ANCIENT HISTORY AND ARCHAEOLOGY) 2131

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program
24 units from CLASSICS 2B03, 2C03, 2K03, 2LA3, 2LB3, 2LC3, 2LD3, 2Y03, 2Y33, 2Z03, 3E03, 3G03, 3H03, 3H33, 3M03, 3M33, 3Q03, 3S03, 3TT3, 3X03
6 units from CLASSICS 4B03, 4B03, 4E03, 4T03
24 units Levels II, III and IV Classics, Greek, Latin
36 units Electives

Honours Classics

(PROGRAM B: CLASSICAL LANGUAGES AND LITERATURE) 2132

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program
6 units from CLASSICS 2B03, 2E03, 3E03, 3G03, 3TT3, 3X03
24 units Greek (including GREEK 1Z03 and 1ZZ3 (or 12Z3), if not completed in Level I)
24 units Latin (including LATIN 1Z03 and 1ZZ3 (or 12Z3), if not completed in Level I)
6 units Levels II, III and IV Classics, Greek, Latin
30 units Electives

Combined Honours in Classics and Another Subject

(PROGRAM A: ANCIENT HISTORY AND ARCHAEOLOGY) 2131

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program
21 units from CLASSICS 2B03, 2C03, 2K03, 2LA3, 2LB3, 2LC3, 2LD3, 2Y03, 2Y33, 2Z03, 3E03, 3G03, 3H03, 3H33, 3M03, 3M33, 3Q03, 3S03, 3TT3, 3X03
6 units from CLASSICS 4B03, 4B03, 4E03, 4T03
9 units Levels II, III and IV Classics, Greek, Latin
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units
Combined Honours in Classics and Another Subject

(PROGRAM B: CLASSICAL LANGUAGES AND LITERATURE)

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
6 units from CLASSICS 2D03, 2E03, 3EE3, 3I03, 3TT3, 3X03
24 units Greek or Latin
6 units Level II, III and IV Classics, Greek, Latin
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

B.A. in Classics {1130}

NOTE
Students are encouraged to include at least six units of Greek or Latin in their program. GREEK 1Z03, 1Z23 and LATIN 1Z03, 1Z23, if not completed in the Level I program, may be taken as elective courses.

REQUIREMENTS
90 units total (Levels I to III)
30 units from the Level I program completed prior to admission into the program
12 units Level II Classics, Greek or Latin
12 units Level III Classics, Greek or Latin
36 units Electives

Minor in Classics
24 units of Classics, Greek or Latin, of which no more than six units may be from Level I

Minor in Greek
24 units of Greek, of which no more than six units may be from Level I

Minor in Latin
24 units of Latin, of which no more than six units may be from Level I

INTERDISCIPLINARY MINOR
IN ARCHAEOLOGY

See the Interdisciplinary Minors and Thematic Areas section of this Calendar.

DEPARTMENT OF COMMUNICATION STUDIES AND MULTIMEDIA

WEB ADDRESS: http://csmm.humanities.mcmaster.ca/

PROGRAMS FOR STUDENTS ENTERING IN 2007-2008

Honours Communication Studies {2163}

Communication Studies is an academic discipline which encompasses many fields of inquiry. Graduates of this program will have an advanced knowledge of the nature, function and evolution of communication and will develop both practical and theoretical skills necessary to pursue careers in the field of communications.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 and a grade of at least B- in CMST 1A03.

NOTE
Because MMEDIA 1A03 is required for admission into the Honours Multimedia program, students registered in the Combined Honours Communication Studies and Multimedia program will substitute three units effective for MMEDIA 1A03.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
9 units CMST 2A03, 2B03, 2C03
3 units from CMST 1B03, 2C03
3 units MMEDIA 1A03 (must be completed by the end of Level II)
3 units from CMST 2BB3, 2G03, 2H03, 2I03, 2R03, 2RR3, 2S03, 3BB3, 3H03, 3SS3, 3UU3 which must include at least three units of Level II and three units of Level III courses
6 units from LINGUIST 1A03, 2DD3, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 3M03, 3N03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, MMEDIA 2103 which may include no more than three units of Level I courses
6 units from Levels II or III Communication Studies, MMEDIA 2D03, 3E03, 3F03, 3G03
6 units Level IV Communication Studies
39 units Electives

Combined Honours in Communication Studies and Another Subject

Communication Studies is an academic discipline which encompasses many fields of inquiry. Graduates of this program will have an advanced knowledge of the nature, function and evolution of communication and will develop both practical and theoretical skills necessary to pursue careers in the field of communications.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 and a grade of at least B- in CMST 1A03.

NOTE
Because MMEDIA 1A03 is required for admission into the Honours Multimedia program, students registered in the Combined Honours Communication Studies and Multimedia program will substitute three units elective for MMEDIA 1A03.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
9 units CMST 2A03, 2B03, 2C03
3 units from CMST 1B03, 2C03
3 units MMEDIA 1A03 (must be completed by the end of Level II)
3 units from CMST 2D03, 2E03, 3G03, 3H03, 3I03, 3K03, 3M03, 3O03, 3P03, 3Q03, 3R03, 3S03, 3T03, 3U03, 3V03, 3W03, 3X03, 3Y03, 3Z03, MMEDIA 2103 which may include no more than three units of Level I courses
6 units from Levels II or III Communication Studies, MMEDIA 2D03, 3E03, 3F03, 3G03
6 units Level IV Communication Studies
39 units Electives

PROGRAMS FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 2007

Honours Communication Studies

Communication Studies is an academic discipline which encompasses many fields of inquiry. Graduates of this program will have an advanced knowledge of the nature, function and evolution of communication, and will develop both practical and theoretical skills necessary to pursue careers in the field of communications.

NOTES
1. Students in this program must complete two of the following Streams:
   - The Language and Social Life Stream involves the study and discovery of patterns in human language and society. Focus is placed on the art and science of persuasion, linguistic methods and the importance of language in political and social life.
   - The Cultural Studies Stream focuses on the critical analysis of popular culture through mass media, the visual arts and a variety of other forms. Unique to the Communication approach to Cultural Studies is a focus on empirical analysis as well as the social, political and cognitive significance of popular cultures.
The Performance Studies Stream examines artistic and everyday performances. These performances range from theatre, concerts and performance art to story telling, ceremonies and public protests. Students will examine and analyze performances and their meanings and effects with particular emphasis on the relationships between these performances and their consequences with a particular emphasis on the role of actions in social communication.

The Mass Communication Stream focuses on the organization and functioning of information media such as television, radio, the Internet and the press as major institutions and sources of knowledge and understanding about society.

2. It is strongly recommended that students in the Language and Social Life stream take LINGUIST 1A03 and 1AA3 in Level I or Level II in order to take upper level linguistics courses.

3. It is recommended that students, especially those in the Language and Social Life stream, take six units of a language other than English.

**COURSE LIST 1 - LANGUAGE AND SOCIAL LIFE STREAM**

6 units - CMST 2E03, 3C03
3 units - from CMST 4J03, 4L03
9 units - from CMST 2F03, 2U03, 2V03, 2W03, 3C03, 3D03, 3E03, 3V03, 3WV3, 3Y03, 4D03, 4G03, 4H03, 4I03, 4J03, 4L03, 4R03, 4S03, 4T03, PSYCH 2C03, 2H03, 3S03, 3U03

**COURSE LIST 2 - CULTURAL STUDIES STREAM**

3 units - CMST 2B03
3 units - from CMST 4C03, 4M03
12 units - from CMST 2F03, 2G03, 2H03, 2I03, 2M03, 2N03, 2O03, 2P03, 2Q03, 2R03, 2S03, 2T03, 2U03, 2V03, 2W03, 2X03, 2Y03, 3B03, 3C03, 3D03, 3F03, 3P03, 3SS03, 3T03, 3U03, 3VV3, 3X03, 3XX3, 4FF3

**COURSE LIST 3 - PERFORMANCE STUDIES STREAM**

6 units - CMST 2G03, 4C03
6 units - from CMST 2H03, 2P03, 2R03, 2RR3, 2S03, 3U03
6 units - from CMST 2F03, 2Q03, 3H03, 3L03, 3M03; KINESIOL 3JJ3, 3T03

**COURSE LIST 4 - MASS COMMUNICATION STREAM**

6 units - CMST 2K03, 4E03
3 units - from CMST 2L03, 2Z03
3 units - from CMST 3C03, 3D03
6 units - from CMST 2P03, 2L03, 2Z03, 3C03, 3D03, 3I03, 3K03, 3MM3, 4D03

**REQUIREMENTS**

120 units total (Level I to IV)
30 units - from the Level I program completed prior to admission into the program
12 units - CMST 2A03, 2B03, 2C03, 2D03
3 units - from CMST 3K03, 3N03, 3Q03
3 units - from CMST 4CC3, 4N03, 4Q03
36 units - from Course Lists (See Note 1 above.)
36 units - Electives

**Combined Honours in Communication Studies and Another Subject**

**NOTES**

1. Communication Studies is an academic discipline which encompasses many fields of inquiry. Students in this program will have an advanced knowledge of the nature, function and evolution of communication, and will develop both practical and theoretical skills necessary to pursue careers in the field of communications. Students in this program must complete one of the following Streams:

   The Language and Social Life Stream involves the study and discovery of patterns in human language and society. Focus is placed on the art and science of persuasion, linguistic method and the importance of language in political and social life.

   The Cultural Studies Stream focuses on the critical analysis of popular culture through film, the visual arts and a variety of other forms. Unique to the Communication approach to Cultural Studies is a focus on empirical analysis as well as the social, political and cognitive significance of popular cultures.

   The Performance Studies Stream examines artistic and everyday performances. These performances range from theatre, concerts and performance art to story telling, ceremonies and public protests. Students will examine and analyze performances and their meanings and effects with particular emphasis on the relationships between these performances and their consequences with a particular emphasis on the role of actions in social communication.

   The Mass Communication Stream focuses on the organization and functioning of information media such as television, radio, the Internet and the press as major institutions and sources of knowledge and understanding about society.

2. It is strongly recommended that students in the Language and Social Life stream take LINGUIST 1A03 and 1AA3 in Level I or Level II in order to take upper level linguistics courses.

3. It is recommended that students, especially those in the Language and Social Life stream, take six units of a language other than English.

**COURSE LIST 1 - LANGUAGE AND SOCIAL LIFE STREAM**

6 units - CMST 2E03, 3G03
3 units - from CMST 2F03, 2U03, 2V03, 2W03, 3C03, 3D03, 3E03, 3V03, 3WV3, 3Y03, 4D03, 4G03, 4H03, 4I03, 4J03, 4L03, 4R03, 4S03, 4T03, PSYCH 2C03, 2H03, 3S03, 3U03

**COURSE LIST 2 - CULTURAL STUDIES STREAM**

3 units - from CMST 4C03, 4M03
12 units - from CMST 2F03, 2G03, 2H03, 2I03, 2M03, 2N03, 2O03, 2P03, 2Q03, 2R03, 2S03, 2T03, 2U03, 2Y03, 3B03, 3C03, 3D03, 3F03, 3P03, 3SS03, 3T03, 3U03, 3VV3, 3X03, 3XX3, 4FF3

**COURSE LIST 3 - PERFORMANCE STUDIES STREAM**

6 units - CMST 2G03, 4C03
6 units - from CMST 2H03, 2P03, 2R03, 2RR3, 2S03, 3U03
6 units - from CMST 2F03, 2Q03, 3H03, 3L03, 3M03; KINESIOL 3JJ3, 3T03

**COURSE LIST 4 - MASS COMMUNICATION STREAM**

6 units - CMST 2K03, 4E03
6 units - from CMST 2L03, 2Z03
3 units - from CMST 3C03, 3D03
6 units - from CMST 2P03, 2L03, 2Z03, 3C03, 3D03, 3I03, 3K03, 3MM3, 4D03

**REQUIREMENTS**

120 units total (Level I to IV)
30 units - from the Level I program completed prior to admission into the program
12 units - CMST 2A03, 2B03, 2C03, 2D03
3 units - from CMST 3K03, 3N03, 3Q03
3 units - from CMST 4CC3, 4N03, 4Q03
36 units - from one of the Course Lists (See Note 1 above.)
36 units - Courses specified for the other subject.
18 units - Electives to total 120 units

**Multimedia**

**WEB ADDRESS:** http://cmmumanitites.mcmaster.ca/

**Honours Arts & Science and Multimedia**

(B.Ats.Sc.; See Arts & Science Program)

**Combined Honours B.A. in Multimedia and Another Subject**

Students wishing to enter this program must complete an application for admission to Level II on MUGS in mid-March to be considered for admission.

**ADMISSION**

Enrolment in this program is limited and highly competitive. Selection is based on academic achievement in Level I Multimedia courses but requires, as a minimum, completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B+ in each of MMEDEIA 1A03, 1B03.

**NOTES**

1. Applicants must have completed Level I (30 units including MMEDEIA 1A03 and 1B03) by April of the year in which application is made.

2. Application for this program must be made by April 30. Please see Admission to Level II Programs under Academic Regulations in this section of the Calendar for information with regard to the application procedure.
3. The Combined Honours in Multimedia program is not available to students who already possess an undergraduate degree. As an alternative, such students may be interested in the Certificate/Diploma in Web Design and Development offered through the Centre for Continuing Education. Please refer to the Certificate and Diploma Programs section of this calendar under the heading Centre for Continuing Education.

4. Students must complete MMEDIA 4A03 and 4B03 in the same academic year.

COURSE LIST 1
CMST 2T03, COMP SCI 1MA3, 2SC3, 3SE3; LINGUIST 4D03; MMEDIA 2C03, 2D03, 2E03, 2F03, 2G03, 2H03, 2I03, 3C03, 3D03, 3E03, 3F03, 3G03, 3H03, 3I03, 3J03, 3K03, 4C03, 4D03; MUSIC 2F03; THTRSLFL 2E03; WOMEN ST 2D03

REQUIREMENTS
120 units total (Levels I to IV)
   30 units from the Level I program completed prior to admission into the program
   18 units from MMEDIA 2A03, 2B03, 3A03, 3B03, 4A03, 4B03
   3 units from MMEDIA 2C03, 3G03
   15 units from Course List 1
   36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
   18 units Electives to total 120 units

COMPARATIVE LITERATURE

WEB ADDRESS: http://www.humanities.mcmaster.ca/~complit

Honours Arts & Science and Comparative Literature
(B.Arts.Sc.; See Arts & Science Program)

Combined Honours in Comparative Literature and Another Subject

Comparative Literature is the study of literature from an international and interdisciplinary perspective. The Combined Honours Program allows students to pursue both Comparative Literature (taught in English) and another subject of their choosing.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in COMP LIT 1A03 or 1AA3; whichever of these two courses was not completed in Level I must be taken in Level II.

NOTES
1. Students registered in the Comparative Literature program are encouraged to substitute up to 12 units of a language other than English as part of the Comparative Literature requirements, with the approval of the Director of the Program.
2. Graduate programs in Comparative Literature require proficiency in a second language. Students who plan to pursue graduate studies in Comparative Literature are strongly encouraged to include a second language beyond the introductory level in their program.
3. Upon completion of 60 units of work and with the approval of the Director of Comparative Literature and of the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

REQUIREMENTS
120 units total (Level I to IV)
   30 units from the Level I program completed prior to admission into the program
   15 units from COMP LIT 2A03, 2AA3, 2BB3, 2CC3, 2F03, 3BB3, 3G03, 3HH3, 3JJ3, 3MM3, 3N03, 3QQ3, 3SS3, 3WW3
   6 units from COMP LIT 4A03, 4D03, 4E03, 4F03, 4T03
   15 units Levels II, III, IV Comparative Literature (See Note 1 above.)
   36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
   18 units Electives to total 120 units

Minor in Comparative Literature
24 units of Comparative Literature, of which no more than six units may be taken from Level I

DEPARTMENT OF ENGLISH AND CULTURAL STUDIES

WEB ADDRESS: http://www.humanities.mcmaster.ca/~english/

Programs Offered by the Department of English and Cultural Studies

Honours Arts & Science and English (B.Arts.Sc.; See Arts & Science Program)

AREAS OF STUDY
The Department has defined four areas of study. Students should consult the Program Notes for their specific program to determine their requirements regarding these areas. Level II and III courses are allocated to the areas as follows:

<table>
<thead>
<tr>
<th>AREA</th>
<th>ENGLISH COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AREA 1</td>
<td>Early British Literature</td>
</tr>
<tr>
<td></td>
<td>2B06, 3C06, 3I06, 3K06, 3L06, 3V06</td>
</tr>
<tr>
<td>AREA 2</td>
<td>Later British Literature</td>
</tr>
<tr>
<td></td>
<td>2C06, 3G06, 3M06, 3N06</td>
</tr>
<tr>
<td>AREA 3</td>
<td>Canadian, American and Post-Colonial</td>
</tr>
<tr>
<td></td>
<td>2G06, 2X06, 2Y06, 3R06</td>
</tr>
<tr>
<td>AREA 4</td>
<td>Theory and Cultural Studies</td>
</tr>
<tr>
<td></td>
<td>2A03, 2K06, 2M03, 2MM3, 3A03, 3AA3, 3JJ3, 3QQ3, 3QQ3</td>
</tr>
</tbody>
</table>

Honours English

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I English.

NOTES
1. When registering, students should distribute their required English courses (see Requirements below) as follows:
   - Level II: 16 units of Levels II and/or III English
   - Level III: 18 units of Levels II and/or III English
   - Level IV: six units of Levels II and/or III English; 12 units of Level IV English seminars. (No student may take more than 12 units of Level IV seminars.)
2. With permission of the Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee early in the first term.
3. Most graduate programs in English require proficiency in a second language. Students who plan to pursue graduate studies in English are strongly encouraged to include in their program a second language beyond the introductory level.

REQUIREMENTS
120 units total (Level I to IV)
   30 units from the Level I program completed prior to admission into the program
   12 units from Area 1 English courses
   6 units from Area 2 English courses
   6 units from Area 3 English courses
12 units from Area 4 English courses
6 units from Areas 1-4 and ENGLISH 2D03, 3CC3, 3D03, 3DDD, 3EE3, 3H03, 3RR3, 3S03, 3U03, 3W03, 3X03, 3Y03
12 units Level IV English seminars
36 units Electives

Combined Honours in English and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I English.

NOTES
1. When registering, students should distribute their required English courses (see Requirements below) as follows:
   - Level II 12 units of Levels II and/or III English
   - Level IV six units of Levels II and/or III English; six units of Level IV English seminars (No student may take more than six units of Level IV seminars.)
2. With permission of the Department, students may substitute ENGLISH 4X03 for three units of Level IV seminar work in second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee in the first term.
3. Most graduate programs in Cultural Studies and/or Critical Theory require proficiency in a second language. Students who plan to pursue graduate studies in these areas are strongly encouraged to include in their program a second language beyond the introductory level.

CORE COURSE LIST
CSCT 2M03, 2MM3, 2P03, 2S03, 3A03, 3AA3, 3CC3, 3Q03, 3QQ3, 3R06

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
24 units from Core Course List
6 units Levels II or III Cultural Studies and Critical Theory
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

B.A. in English

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units of Level I English.

NOTE
When registering, students should distribute their required English courses (see Requirements below) as follows:
   - Level II 12 units of Levels II and/or III English
   - Level III 18 units of Levels II and/or III English

REQUIREMENTS
90 units total (Levels I to III)
30 units from the Level I program completed prior to admission into the program
6 units from Area 1 English courses
6 units from Area 2 English courses
6 units from Area 3 English courses
6 units from Area 4 English courses
6 units from Areas 1-4 and ENGLISH 2D03, 3CC3, 3D03, 3DDD, 3EE3, 3H03, 3RR3, 3S03, 3U03, 3W03, 3X03, 3Y03
30 units Electives

Minor in English
Six units of Level I English and 18 units of Levels II and III English

DEPARTMENT OF FRENCH

WEB ADDRESS: http://www.humanities.mcmaster.ca/~french

Honours Arts & Science and French
(B.Arts.Sc.; See Arts & Science Program)

The Department of French has an overall theme of Francophonie (the French-speaking world) and Diversity. This theme is reflected in the four areas of study in the following table which serves to give an overview of courses available in each area of concentration. Students are not expected to specialize officially in any one area.
<table>
<thead>
<tr>
<th>AREA</th>
<th>FRENCH COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistics, Translation and Literary Theory</td>
<td>2G03, 2H03, 3A03, 3CC3, 3GG3, 3H03, 4BB3, 4E03, 4H03, 4I03, 4X03</td>
</tr>
<tr>
<td>African and Caribbean Literatures and Cultures</td>
<td>3203, 4LL3</td>
</tr>
<tr>
<td>Quebec and Franco-Canadian Literatures and Cultures</td>
<td>2E03, 3AA3, 3BB3, 4U03</td>
</tr>
<tr>
<td>Franco-European Literatures and Cultures</td>
<td>2F03, 2J03, 2JJ3, 2N03, 3K03, 3K3, 3QQ3, 30Q3, 3SS3, 3W03, 3WW3, 3Y03, 4D03, 4F03, 4J03, 4J3, 4M3, 4N03, 4Q03, 4S03, 4V03, 4Y03</td>
</tr>
</tbody>
</table>

NOTE
Students planning to do graduate work in French literature are advised to take as many courses as possible from the Franco-European Literatures and Cultures Area.

Honours French

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION

2007-2008 ONLY: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06 or a grade of at least B+ in FRENCH 1N06.

EFFECTIVE 2008-2009: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06.

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Office of the Dean of the Faculty of Humanities, Level III of Honours French may be replaced by courses of study at a French-language university.

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

12 units FRENCH 2B03, 2BB3, 3C03, 4A03

9 units FRENCH 2E03, 2F03, 2H03

3 units from FRENCH 3Z03, 4L3

12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3QQ3 or 3QQ3; 3W03 or 3WW3; 3Y03, 4J03, 4S03

12 units Levels II, III or IV French

6 units Level IV French

36 units Electives

Combined Honours in French and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION

2007-2008 ONLY: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06 or a grade of at least B+ in FRENCH 1N06.

EFFECTIVE 2008-2009: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in FRENCH 1A06 or 2M06.

NOTE
Upon completion of 60 units of work (including 12 units of required Level II French courses), and with the approval of the Department of French and the Office of the Dean of the Faculty of Humanities, up to 15 units of Level III French may be replaced by courses of study at a French-language university.

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

12 units FRENCH 2B03, 2BB3, 3C03, 4A03

9 units FRENCH 2E03, 2F03, 2H03

3 units from FRENCH 3Z03, 4L3

12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3QQ3 or 3QQ3; 3W03 or 3WW3; 3Y03, 4J03, 4S03

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Electives to total 120 units

B.A. in French

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION

2007-2008 ONLY: Completion of any Level I program and a Cumulative Average of at least 3.5 including a grade of at least C- in FRENCH 1A06 or 2M06 or a grade of at least C+ in FRENCH 1N06.

EFFECTIVE 2008-2009: Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least C- in FRENCH 1A06 or 2M06.

REQUIREMENTS

90 units total (Levels I to II)

30 units from the Level I program completed prior to admission into the program

9 units FRENCH 2B03, 2BB3, 3C03

12 units from FRENCH 2E03, 2F03, 2H03, 3Z03

12 units from FRENCH 2J03 or 2JJ3; 3K03 or 3KK3; 3QQ3 or 3QQ3; 3W03 or 3WW3; 3Y03, 4J03, 4S03

3 units Levels II or III French

24 units Electives

PROGRAMS FOR STUDENTS WHO ENTERED PRIOR TO SEPTEMBER 2006

Honours French

PROGRAM B: LANGUAGE AND LITERATURE

REQUIREMENTS For Students Who Entered Prior to September 2006

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Office of the Dean of the Faculty of Humanities, Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1

- FRENCH 4D03, 4F03, 4I03, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4V03, 4X03, 4Y03

REQUIREMENTS

120 units total (Levels I to IV)

30 units from the Level I program completed prior to admission into the program

12 units FRENCH 2B03, 2BB3, 3C03, 4A03

6 units from FRENCH 2G03, 3CC3, 3F03, 4BB3

3 units from FRENCH 2J03, 2JJ3

3 units from FRENCH 2W03, 2WW3, 3W03, 3WW3

3 units from FRENCH 2D03, 2EG3, 3AA3, 3BB3, 3Z03, 4U03

3 units from FRENCH 3K03, 3KK3

3 units from FRENCH 3Q03, 3QQ3

9 units from Course List 1

9 units Levels III and IV French

36 units Electives
Honours French

PROGRAM B: LANGUAGE, LINGUISTICS AND TRANSLATION (2232)

Requirements For Students Who Entered Prior to September 2006

NOTE
Upon completion of 60 units of work (including 18 units of required Level II French courses), and with the approval of the Department of French and the Office of the Dean of the Faculty of Humanities, Level III of Honours French may be replaced by courses of study at a French-language university.

COURSE LIST 1
FRENCH 3A03, 3B03, 3BB3, 3K03, 3K13, 3Q03, 3QQ3, 3S03, 3SS3, 3U03, 3UU3, 4D03, 4F03, 4J03, 4103, 4LL3, 4MM3, 4N03, 4Q03, 4S03, 4U03, 4V03, 4Y03

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
12 units FRENCH 2B03, 2BB3, 3C03, 4A03
9 units from Course List 1, including at least three units from Levels III or IV
9 units from Course List 2
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

B.A. in French

Requirements For Students Who Entered Prior to September 2006

REQUIREMENTS
90 units total (Levels I to III)
30 units from the Level I program completed prior to admission into the program
12 units FRENCH 2B03, 2BB3, 3C03, 3F03
3 units from FRENCH 2J03, 2JJ3
3 units from FRENCH 2W03, 2WW3, 3W03, 3WW3
6 units from FRENCH 3A03, 3B03, 3K03, 3Q03, 3QQ3, 3S03, 3SS3
12 units Levels II, III or IV French
24 units Electives

Minor in French

Requirements
24 units total
6 units from FRENCH 1A06, 1N06, 2M06
9 units FRENCH 2B03, 2BB3, 3C03
3 units from FRENCH 2E03, 2F03, 2J03, 2JJ3, 2W03, 2WW3, 3A03, 3B03, 3K03, 3Q03, 3QQ3, 3S03, 3SS3, 3U03, 3UU3, 3W03, 3WW3, 4D03, 4F03
6 units Levels II or III French, excluding FRENCH 2M06 and 2206

DEPARTMENT OF HISTORY

WEB ADDRESS: http://www.humanities.mcmaster.ca/-history/

Honours Arts & Science and History

(B.Arts.Sc.; See Arts & Science Program)

SUBFIELDS
The Department has defined three fields of study. Students should consult the Program Notes for their specific program to determine the requirements regarding these fields. Level II and III courses are allocated to the fields as follows:
- Europe (including Britain) HISTORY 2CC3, 2DD3, 2EE3, 2F03, 2FF3, 2HH3, 2L3, 2M03, 2M03, 2Q03, 2QQ3, 2U03, 2UU3, 3F03, 3SS3, 3U03, 3UU3, 3W03, 3WW3, 3Y03, 3Z03
- Ancient and Non-Western World HISTORY 2E03, 2HH3, 2J03, 2JJ3, 2K03, 2L03, 2L3, 2L3, 2M03, 2U03, 3A03, 3B03, 3BB3, 3CC3, 3DD3, 3EE3, 3GG3, 3HH3, 3LL3, 3MM3, 3TT3, 3X03
- The Americas HISTORY 2AA3, 2DD3, 2EE3, 2G03, 2R03, 2R03, 2T03, 2T3, 3G03, 3I03, 3J03, 3K03, 3L03, 3N03, 3NN3, 3OO3, 3P03, 3UU3, 3V03, 3W03, 3WW3, 3Y03
Honours History (2290)

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I History.

NOTES
1. In selecting courses, students must ensure that they take a minimum of six units in each of three fields of History. This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used toward this requirement.
2. Beginning in 2007-2008, all students entering an Honours History program must take HISTORY 2P03 in Level II as part of their degree requirements. Those students currently registered in this program should follow the requirements as specified on their degree audit and are not required to take HISTORY 2P03.
3. The department recommends that students take one Level IV seminar in Level III and one Level IV seminar in Level IV. Students must complete HISTORY 2P03 before enrolling in a Level IV History seminar.
4. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
15 units Level II History
3 units HISTORY 2P03 (See Note 2 above.)
15 units Level III History
12 units Level IV History
45 units Electives

Combined Honours in History and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Level I History.

NOTES
1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. This requirement must be satisfied by the end of Level III. All Level II and III History courses from the above list may be used toward this requirement.
2. Beginning in 2007-2008, all students entering an Honours History program must take HISTORY 2P03 in Level II as part of their degree requirements. Those students currently registered in this program should follow the requirements as specified on their degree audit and are not required to take HISTORY 2P03.
3. No Level IV seminar may be taken before completion of 12 units of History above Level I. Students must complete HISTORY 2P03 before enrolling in a Level IV History seminar.
4. The department recommends that students take one Level IV seminar in Level III and one Level IV seminar in Level IV.
5. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
18 units Level II History
3 units HISTORY 2P03 (See Note 2 above.)
6 units Level III History
12 units Level IV History
36 units Courses specified by the other subject. (Combinations with Social Sciences may require more than 36 units.)
24 units Elective to total 120 units

B.A. in History (1290)

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 3.5 including an average of at least 4.0 in any six units of Level I History.

NOTES
1. In selecting courses, students must ensure that they take a minimum of three units in each of three fields of History. All Level II and III History courses from the above list may be used toward this requirement.
2. KINESIOL 3A03 (History of Physical Culture and Sports Medicine) may be taken as a substitute for three units of Level III History.

REQUIREMENTS
90 units total (Levels I to III)
30 units from the Level I program completed prior to admission into the program
12 units Level II History
12 units Level III History
36 units Electives

Minor in History

24 units of History of which no more than six units may be from Level I. Consult the Course Listings section for course prerequisites and limited enrolment courses.

COMBINED B.A. IN INDIGENOUS STUDIES AND ANOTHER SUBJECT

For details see Combined B.A. in Indigenous Studies and Another Subject section of this Calendar.

Japanese Studies

The Combined Honours program in Japanese Studies and Another Subject is being phased out. No new registrants will be accepted.

Combined Honours in Japanese Studies and Another Subject

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
18 units from JAPANESE 2203, 2223, 3A03, 3AA3, 4A03, 4203
6 units from JAPANESE 2B03, 3CC3, 3A03, 3AA3, 4A03, 4203
12 units from JAPANESE 3B03, 3CC3, JAPAN ST 2A03, 2C03
6 units 3B03, 3E03, 3H03, 3J03, 3L03, 4A03, 4B03, 4G03, 4S03, GEO 3JH3, HISTORY 4B60, POL SCI 4MM6
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Minor in Japanese Studies

24 units from JAPANESE 1206 and JAPAN ST 2P06 and 12 additional units of Japanese or Japanese Studies courses

Department of Linguistics and Languages

WEB ADDRESS: http://www.humanities.mcmaster.ca/~modlang

Honours Arts & Science and Linguistics

(B.Ars.Sc.; See Arts & Science Program)

The Department of Linguistics and Languages offers B.A. Honours programs in:
• Linguistic Cognitive Science
• Linguistics

In addition, minors are available, using electives only, in: German, Hispanic Studies, Italian, Japanese Language and Linguistics. Language courses in Polish and Russian are also offered by the Department.
Combined Honours in German and Another Subject

The Combined Honours program in German and Another Subject is being phased out. No new registrants will be accepted.

NOTES
1. It is highly recommended that students include HISTORY 2113 as an elective in this program.
2. Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I Program completed prior to admission into the program
36 units Levels II, III or IV German
36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Combined Honours in Hispanic Studies and Another Subject

The Combined Honours program in Hispanic Studies and Another Subject is being phased out. No new registrants will be accepted.

NOTE
Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I Program completed prior to admission into the program
12 units HISPANIC 2C03, 2L03, 2X03, 2XX3
24 units Levels II, III or IV Hispanic
36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Combined Honours in Italian and Another Subject

The Combined Honours program in Italian and Another Subject is being phased out. No new registrants will be accepted.

NOTE
Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I Program completed prior to admission into the program
12 units HISPANIC 2C03, 2L03, 2X03, 2XX3
24 units Levels II, III or IV Italian
36 units courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

Honours Linguistics

This program is designed for students who are concentrating on the scientific study of language (phonology, morphology, syntax, semantics, etc.).

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03 and 1AA3. It is strongly recommended that students include six units of a language other than English in their Level I program.

NOTES
1. In this program students are required to study at least two languages for a total of 24 units of language study. The department has defined four language groups (see below) for this purpose.
2. Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.
3. For students concentrating in Applied Linguistics, all 24 units of language study required for the program may be taken in one language.
4. Students who wish to qualify for TESL Certification must complete LINGUIST 4B03, 4E03 and 4TE3.

COURSE LIST 1 - THEORETICAL LINGUISTICS
All Linguistics courses above Level I; and all courses taught in a language other than English; CMST 3E03; MMEDIA 2D03, 2I03, 4C03; PHILOS 2B03, 3E03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03, 3U03

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I Program completed prior to admission into the program
15 units LINGUIST 2L03, 3A03, 3I03, 3I03, 3M03
3 units from LINGUIST 2AA3, 2LL3
3 units from LINGUIST 2E03, 3P03, 3X03
6 units from LINGUIST 3B03, 3C03
3 units from LINGUIST 4LB3, 4LC3, 4M03, 4XX3
3 units from LINGUIST 4I03, 4N03, 4R03, 4S03
3 units from LINGUIST 4B03, 4D03, 4E03, 4T03
12 units from one of the languages (above Level I) as specified in Note 1 above
6 units from a second language as specified in Note 1 above
18 units from Course List 1 or 2 (See Note 4 above.)
18 units Electives

Combined Honours in Linguistics and Another Subject

This program is designed for students who want to combine the scientific study of language with another subject of their choice.

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03 and 1AA3.
NOTES
1. Students are required to complete 18 units of a language other than English for this program with six units at Level I and 12 units above Level I. Please note however, that some languages begin at Level II. Students are also advised that some languages may not offer sufficient units to meet this 18 unit requirement. Students should consult the Academic Counsellor in Linguistics in selecting their language of concentration.

2. Students whose other subject involves the study of a language may substitute the 12 units of language other than English with 12 units from Course List 1.

3. Upon completion of 60 units of work and with the approval of the Department of Linguistics and Languages, and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a university under the Humanities Study Elsewhere Program.

COURSE LIST 1
All Linguistics courses above Level I, and all courses taught in a language other than English; CMST 3E03; MMEDIA 2D03, 2103, 4C03; PHILOS 2B03, 3E03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03, 3U3

REQUIREMENTS
120 units total (Levels I to IV)
30 units from Level I program completed prior to admission into the program
12 units from LINGUIST 2AA3, 2E03, 2L3, 3B03, 3C03, 3P03, 3X03, 4B03, 4D03, 4E03, 4I03, 4I1, 4M03, 4N03, 4R03, 4S03, 4T03, 4XX3, 4Z03
12 units from LINGUIST 2L03, 3A03, 3I03, 3I1, 3M03, 3W03, 4M03, 4N03, 4R03, 4S03
12 units from a language other than English, above Level I.

36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)

18 units Electives to total 120 units

Honours Linguistic Cognitive Science \{2313\}

Students wishing to enter this program must complete an application for admission to Level I on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03, 1AA3 and PSYCH 1A03.

NOTES
1. When selecting electives, students may choose to focus on one of the following subfields though it is not necessary to do so. Students should speak with the Undergraduate Counselor for Linguistics to determine which electives are most appropriate for their academic and professional objectives.

SPEECH AND LANGUAGE PATHOLOGY PREPARATION
GERONTOL 2E03; MATH 1M03 or STATS 1A03, STATS 1CC3; KINGSTON 1Y03, 1Y13; LINGUIST 3B03, 3C03, 3X03, 4L13; PSYCH 2AA3, 2E03, 2H03, 2RA3, 2RB3, 3A03

Students wishing to enter a graduate program in Speech and Language Pathology should take a total of six units of statistics courses.

LANGUAGE AND SOCIAL LIFE
CMST 3C03, 3D03; FRENCH 3CC3, 4B03, 4E03, 4H03, 4X03; LINGUIST 2E03, 3P03, 3X03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03, 4XX3; MMEDIA 2D03, 2103, 3B03, 3D03, 3P3; PSYCH 2C03

COGNITIVE SCIENCE
FRENCH 3CC3, 4B03, 4E03, 4H03, 4X03, 3P3; LINGUIST 2AA3, 2L3, 3D03, 4L3, 4XX3, 4Z03, 4Z23; MMEDIA 2D03, 3B03, 3D03, 3F03, 3J03; PHILOS 2F03, 3F03, 3M03; PSYCH 2C03, 2D03, 2H03, 3A03, 3A3, 3E03, 3H03, 3I1, 3Q03, 3V03, 4B03, 4N03

2. At some time during the program, students must meet a laboratory requirement by completing one course from Course List 1 below. Enrollment in Psychology Laboratory courses is limited.

3. In this program students are required to complete 12 units of language courses other than English. Students may choose to complete 12 units of one language or six units of two different languages in order to fulfill this requirement.

4. Students taking French courses as a part of this program must be proficient enough to participate in a classroom environment conducted entirely in French, but will have the option of writing assignments and answering exam questions in English.

COURSE LIST 1
LINGUIST 4D03, 4I13, PSYCH 3EE3, 3LL3, 3Q03, 3V03

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
15 units LINGUIST 2L03, 3A03, 3I03, 3I1, 3M03
3 units from LINGUIST 3C03, PSYCH 3I13
3 units from LINGUIST 4D03, 4L3, 4XX3, 4M03, 4XX3, 4Z03, 4Z23
6 units from LINGUIST 3P03, PHILOS 2B03, 3E03, 3F03
6 units PSYCH 1A03, 2H03
6 units LINGUIST 3B03, PSYCH 3J03, 3U03
3 units from PSYCH 2D03, 2E03, 2F03
3 units from PSYCH 2RA3, 2RR3, SOC SCI 2J03, STATS 1C03
12 units from a language other than English (See Note 3 above.)
3 units from Course List 1
30 units Electives

Combined Honours in Linguistic Cognitive Science and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in LINGUIST 1A03, 1AA3 and PSYCH 1A03.

NOTES
1. At some time during the program, students must meet a laboratory requirement by completing one course from Course List 1 below. Enrollment in Psychology Laboratory courses is limited.

2. Students are not permitted to combine this program with the Combined Honours in Linguistics or Combined Honours in Psychology programs.

COURSE LIST 1
LINGUIST 4D03, 4I13; PSYCH 3EE3, 3LL3, 3Q03, 3V03

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
12 units from LINGUIST 2L03, 3A03, 3I03, 3I1, 3M03
3 units from LINGUIST 3C03, PSYCH 3I13
3 units from LINGUIST 4D03, 4L3, 4XX3, 4M03, 4XX3, 4Z03, 4Z23
6 units from LINGUIST 3P03, PHILOS 2B03, 3E03, 3F03
6 units PSYCH 1A03, 2H03
6 units LINGUIST 3B03, PSYCH 3J03, 3U03
3 units from PSYCH 2D03, 2E03, 2F03
3 units from PSYCH 2RA3, 2RR3, SOC SCI 2J03, STATS 1C03
12 units from a language other than English (See Note 3 above.)
3 units from Course List 1
30 units Electives

Honours Modern Languages \{2363\} and Linguistics

The Honours Modern Languages and Linguistics program is being phased out. No new registrants will be accepted.

NOTES
1. Students are strongly advised to complete LINGUIST 1A03 and 1AA3 in their Level I program. If not, LINGUIST 1A03 and 1AA3 may be included in Level II of their program.

2. Students entering the program with FRENCH 2A03 must complete FRENCH 1N06 or 2206, in addition to the 18 units of French, above Level I.

3. Upon completion of 60 units and with the approval of the Department of Linguistics and Languages and of the Office of the Dean of the Faculty of Humanities, one or both terms of Level III of this program may be replaced by courses of study at a university or universities under the Humanities Study Elsewhere Program.
COURSE LIST 1
All Linguistics courses above Level I; and all courses taught in a language other than English: MMEDIA 1A03, 2D03, 2I03, 3B03, 3D03, 3E03, 4C03; PHILOS 2B03, 3F03, 4D03; PSYCH 2E03, 2H03, 3A03, 3U03

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
18 units from LINGUIST 2A03, 2AA3, 2E03, 3X03, 4B03, 4D03, 4E03, 4I03, 4M03, 4N03, 4R03, 4S03, 4T03
18 units from a language other than English (above Level I)
18 units from a second language other than English (above Level I)
18 units from Course List 1
18 units Electives

Minors

Minor in German
24 units of German, of which no more than six units may be taken from Level I

Minor in Hispanic Studies
24 units of Hispanic Studies, of which no more than six units may be taken from Level I

Minor in Italian
24 units of Italian, of which no more than six units may be taken from Level I

Minor in Japanese Language
24 units of Japanese, of which no more than six units may be taken from Level I

Minor in Linguistics
24 units of Linguistics, of which no more than six units may be taken from Level I

PEACE STUDIES

WEB ADDRESS: http://www.humanities.mcmaster.ca/-peace

Honours Arts & Science and Peace Studies
(B.Arts.Sc.; See Arts & Science Program)

Combined Honours in Peace Studies and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSl in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Philosophy, History, Political Science, Economics, and Sociology may be replaced by courses of study at a designated university abroad.

NOTES
1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
3 units from PEACE ST 2A03
3 units from ANTHROP 3T03, PEACE ST 3M03, RELIG ST 2H03, SOCIOI 3KK3
3 units from PEACE ST 4A03, 4B03, 4D03
9 units from Course List 1
9 units from Course List 2
9 units from Course Lists 1 and 2
36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
18 units Electives to total 120 units

DEPARTMENT OF PHILOSOPHY

WEB ADDRESS: http://www.humanities.mcmaster.ca/~philos

Honours Arts & Science and Philosophy
(B.Arts.Sc.; See Arts & Science Program)

Honours Philosophy {2420}

Students wishing to enter this program must complete an application for admission to Level II on MUGSl in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

NOTES
1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
120 units total (Levels I to IV)
30 units from the Level I program completed prior to admission into the program
27 units from PHILOS 2A03, 2C03, 3A03, 3G03, 3Q03, 4H03
3 units from PHILOS 2B03, 3K3
3 units Levels II, III or IV Philosophy
15 units Levels III or IV Philosophy
6 units Level IV Philosophy
36 units Electives

Combined Honours in Philosophy and Another Subject

Students wishing to enter this program must complete an application for admission to Level II on MUGSl in mid-March to be considered for admission.
ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

NOTES
1. Students intending to do graduate work in Philosophy are advised to include PHILOS 2B03 in their program.
2. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
3. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
120 units total (Levels I to IV)
- 30 units from the Level I program completed prior to admission into the program
- 12 units PHILOS 2A06, 2C06
- 3 units from HUMAN 2C03, PHILOS 2B03
- 15 units Levels III or IV Philosophy
- 6 units Level IV Philosophy
- 36 units Core specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

Honours Philosophy and Biology (B.A.)

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0 and an average of at least 7.0 in six units of Level I Philosophy (or, if no such course was taken, in six units of work acceptable to the Department of Philosophy) and an average of at least 7.0 in BIOLOGY 1A03 and 1A04 and six units of Level I Mathematics. Students are cautioned to observe that CHEM 1A03 is the normal prerequisite for BIOLOGY 2B03 and 2C03, which are required courses in the program. Enrolment in this program is limited.

NOTES
1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
120 units total (Levels I to IV)
- 30 units from the Level I program completed prior to admission into the program
- 12 units PHILOS 2A06, 2C06
- 3 units from HUMAN 2C03, PHILOS 2B03
- 15 units Levels III or IV Philosophy
- 6 units Level IV Philosophy
- 36 units Core specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Electives to total 120 units

Honours Philosophy and Mathematics (B.A.)

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 6.0, and successful completion of MATH 1A03 or 1X03, and a grade of at least B- in MATH 1B03 and either MATH 1A03 or 1X03; and an average of at least 7.0 in six units of Level I Philosophy or, if no such course was taken, in six units of work acceptable to the Department of Philosophy.

NOTES
1. Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.
2. Upon completion of 60 units of work and with the approval of the Department of Philosophy and the Office of the Dean of the Faculty of Humanities, one or both terms of Level III may be replaced by courses of study at a designated university abroad.

REQUIREMENTS
120 units total (Levels I to IV)
- 30 units from the Level I program completed prior to admission into the program
- 9 units MATH 2R03, 2X03, 2X03
- 3 units from MATH 2C03, STATS 2D03
- 12 units Levels II, III or IV Mathematics or Statistics which must include MATH 3A03 3X03
- 12 units Levels II or IV Mathematics or Statistics which must include at least one course at Level IV
- 12 units PHILOS 2A06, 2C06
- 3 units PHILOS 2B03
- 3 units Levels III or IV Philosophy
- 3 units Level IV Philosophy
- 15 units Electives

B.A. in Philosophy

Students wishing to enter this program must complete an application for admission to Level II on MUGSI in mid-March to be considered for admission.

ADMISSION
Completion of any Level I program and a Cumulative Average of at least 3.5 and an average of at least 4.0 in six units of Level I Philosophy.

NOTE
Students are advised to note carefully the prerequisites for all courses. Students are also advised to take note which courses are offered in alternate years.

REQUIREMENTS
90 units total (Levels I to III)
- 30 units from the Level I program completed prior to admission into the program
- 12 units PHILOS 2A06, 2C06
- 3 units from HUMAN 2C03, PHILOS 2B03
- 3 units Levels II, III or IV Philosophy
- 6 units Levels III or IV Philosophy
- 36 units Electives

Minor in Philosophy

24 units from PHILOS 2A06 and 2C06; and 12 additional units of Philosophy, of which no more than six units may be from Level I.

WOMEN'S STUDIES

WEB ADDRESS: http://www.humanities.mcmaster.ca/~womensst/

Honours Arts & Science and Women's Studies (B.Arts.Sc.; See Arts & Science Program)

Combined Honours B.A. in Women's Studies and Another Subject

Women's Studies may be taken as a Combined Honours degree or as a Minor. All Women's Studies courses are interdisciplinary, allowing students to explore the relationship between different branches of knowledge and to examine critically different approaches to knowledge construction and theoretical positions in understanding the contributions and social locations of women. Graduates of the Program will be able to choose from a wide career list which includes industrial and government consulting, personnel management, labour relations, education and health care professions. The Program's focus on research prepares students for graduate school.
Students wishing to enter this program must complete an application for admission to Level II on MUGS I in mid-March to be considered for admission.

**ADMISSION**

Completion of any Level I program and a Cumulative Average of at least 6.0 including a grade of at least B- in each of WOMEN ST 1A03 and 1A06 or a grade of at least B- in WOMEN ST 1A05.

**NOTES**

1. Students who have not taken WOMEN ST 1A03 and 1AA3 (or 1A06) because they have transferred from another university may be considered for admission to the program if they are deemed by the Admissions Committee to have fulfilled requirements equivalent to those courses.

2. In Levels II, III and IV, students must take six units of Women's Studies courses appropriate to their level and six additional units of approved discipline-related courses at each level.

3. The courses required for the Women's Studies portion of the Combined Honours program may not include courses offered in the student's other subject area.

**REQUIREMENTS**

120 units total (Levels I to IV)

- 30 units from any one of Levels I to IV, and not Level I
- 6 units WOMEN ST 2A03, 2AA3
- 6 units from RELIG ST 2SS3, SOCIO 2Q06, WOMEN ST 2F03, 2FF3, 2H03, 2HH3, 2J03, 2K06, 2L03
- 6 units WOMEN ST 3A03, 3AA3
- 6 units from LABR ST 3E03, WOMEN ST 3B03, 3BB3, 3DD3, 3E03, 3G03, 3GG3, 3H03, 3HH3, 3I03, 3NN3, 3WW3, 3Z03
- 6 units WOMEN ST 4A06
- 6 units from HISTORY 4106, KINESIO 4T03, SOC WORK 4R03, WOMEN ST 4B03, 4C03, 4J03
- 36 units Courses specified for the other subject. (Combinations with Social Sciences may require more than 36 units.)
- 18 units Elective course work above Level I to total 120 units

With the permission of the Director of Women's Studies, some courses not listed above may be substituted, at the appropriate level, from Anthropology, Classics, Comparative Literature, English and Cultural Studies, French, Geography and Earth Sciences, History, Kinesiology, Labour Studies, Philosophy, Religious Studies and Sociology.

**Minor in Women’s Studies**

**NOTE**

The courses required for the Minor may not include courses offered in the student's other subject area.

**REQUIREMENTS**

24 units total

- 6 units WOMEN ST 1A03, 1AA3 (or 1A05)
- 18 units Levels II or III Women’s Studies courses as listed under Women’s Studies in the Course Listings section of this Calendar
PROGRAMS AND DEGREES

A. Level I Programs

The Faculty of Science offers three Level I programs:

SCIENCE I (LAST OFFERED IN 2007-2008)

MATHEMATICS AND STATISTICS I

MEDICAL RADIATION SCIENCES I

Beginning 2008-2009, in addition to Mathematics and Statistics I and Medical Radiation Sciences I, the following Level I programs will be introduced:

ENVIRONMENTAL AND EARTH SCIENCES I

LIFE SCIENCES I

PHYSICAL SCIENCES I

HONOURS KINESIOLOGY I

PROGRAM NOTES

1. INQUIRY 1SC3 may be taken as an elective.
2. Courses must be selected carefully to meet the admission requirements for entry to Level II of a specific program. (See Faculty of Science program descriptions in this section of the Calendar for Level II program admission requirements.)
3. SCIENCE 1A00 is a one-hour mandatory Health and Safety course which must be completed by all students completing a Level I course with a laboratory experience.
4. SCIENCE 1B00 is a web-based interactive university survival course for Science students. Students are encouraged to complete this course prior to the start of classes.

LEVEL I PROGRAMS IN THE FACULTY OF SCIENCE (EFFECTIVE 2007-2008)

SCIENCE I COURSE LIST

Each course consists of three units and is completed in one term, i.e., from September to December (Term 1) or from January to April (Term 2). Some courses are offered again in the Spring/Summer Session (May to August).

ASTRON 1F03: Introduction to Astronomy and Astrophysics
BIOLOGY 1A03: Cellular and Molecular Biology
BIOLOGY 1A05: Evolutionary Biology
CHEM 1A03: Introductory Chemistry I
CHEM 1A03: Introductory Chemistry II
COMP SCI 1FC3: Mathematics for Computing
COMP SCI 1MA3: Computer Based Problem Solving
COMP SCI 1MD3: Introduction to Programming
COMP SCI 1SA3: Computing Fundamentals
ENVIR SC 1A03: Atmospheric and Hydrospere
ENVIR SC 1B03: The Living Environment
ENVIR SC 1C03: Earth and the Environment
MATLS 1M03: Structure and Properties of Materials
MATH 1A03: Calculus for Science I
MATH 1B03: Linear Algebra I
MATH 1C03: Introduction to Mathematical Reasoning
MATH 1D03: Algebra and Geometry
PHYSICS 1B03: Mechanics and Waves
PHYSICS 1B3: Introduction to Modern Physics A
PHYSICS 1B3: Introduction to Modern Physics B
PHYSICS 1F03: Introduction to Astronomy and Astrophysics
PSYCH 1A03: Introduction to Experimental Psychology
PSYCH 1A03: The Psychology of Interpersonal Behaviour
STATS 1CC3: Introductory Computer-Aided Statistics

CHEM 1A03 may be completed as an elective for those students who did not complete Grade 12 Chemistry U and who wish to proceed to CHEM 1A03.

1. Students with little or no previous computer experience may substitute COMP SCI 1SA3 for COMP SCI 1MA3.

3. ENVIR SC 1C03 provides more Level II course and Level II Earth and Environmental Sciences program choices.

4. PHYSICS 1F03, which may be completed as an elective, serves as the prerequisite for PHYSICS 1B03 for those students who did not complete Grade 12 Physics U or who completed it with a grade of less than 60%.

NOTE: Completion of COMP SCI 1MD3 is required for admission to the Honours Mathematics and Computer Science program.

MEDEICAL RADIATION SCIENCES I

ENROLMENT IN THIS PROGRAM IS LIMITED.

NOTE: As places in the Medical Radiation Sciences program are limited, admission is by selection, and possession of published minimum requirements does not guarantee admission.
2. The University reserves the right to grant admission to a limited number of students, and to refuse admission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the program for a period in excess of one academic year.

3. Students without a grade of at least 60% in Grade 12 Physics U must complete PHYSICS 1F03 in Term 1 in order to meet the prerequisite of MEDRADSC 1C03 in Term 2.

**REQUIREMENTS: 30 UNITS**

- 3 units BIOLOGY 1A03
- 3 units CHEM 1A03
- 6 units KINESIOL 1Y03, 1YY3
- 3 units MATH 1A03
- 6 units MEDRADSC 1A03, 1B03, 1C03
- 3 units STAT 1CC3
- 3 units Electives (See Note 3 above.)
- 1 course SCIENCE 1B00

**LEVEL I PROGRAMS IN THE FACULTY OF SCIENCE (EFFECTIVE 2008-2009)**

**HONOURS BACHELOR OF SCIENCE AND BACHELOR OF SCIENCE PROGRAMS:**

**ENVIRONMENTAL AND EARTH SCIENCES I** {0211}

**NOTES**

1. Students without Grade 12 Calculus and Vectors U must complete MATH 1F03.
2. Completion of both BIOLOGY 1A03 and 1M03 is required for some Level II Biology courses.
3. BIOLOGY 1F03, which may be completed as an elective, serves as the prerequisite for BIOLOGY 1M03 for those students who did not complete Grade 12 Biology U or who completed it with a grade of less than 60%.
4. CHEM 1R03, which may be completed as an elective, serves as the prerequisite for CHEM 1A03 for those students who did not complete Grade 12 Chemistry U.
5. CHEM 1A03 must be completed by the end of Level II for the Honours Earth and Environmental Sciences and Honours Geoscience programs.

**ENVIRONMENTAL AND EARTH SCIENCES COURSE LIST**

BIOLOGY 1A03, 1M03; CHEM 1AA3; MATH 1A03, 1AA3, 1B03, 1LS3; MATLS 1M03; PHYSICS 1B03, 1BA3, 1BB3, 1F03, 1LO3

**REQUIREMENTS: 30 UNITS**

- 3 units ENVIR SC 1G03
- 3 units from ENVIR SC 1A03, 1B03
- 3 units from MATH 1A03, 1LS3
- 3 units from BIOLOGY 1M03, PHYSICS 1B03, 1LO3 (See Note 2 above.)
- 3 units from CHEM 1A03, 1RR03 (See Note 4 above.)
- 9 units from Environmental and Earth Sciences Course List
- 6 units Electives (See Note 1 above.)

**LIFE SCIENCES I** {0312}

**NOTES**

1. Students without Grade 12 Calculus and Vectors U must complete MATH 1F03.
2. Completion of both PSYCH 1A03 and 1AA3 is required for admission to all Psychology programs and all Level II Psychology courses.
3. Completion of both CHEM 1A03 and 1AA3 is required for admission to all Biochemistry, Biology, and Molecular Biology programs.
4. Completion of both BIOLOGY 1A03 and 1M03 is required for some Level II Biology courses.

**LIFE SCIENCES COURSE LIST**

ASTRON 1F03; BIOLOGY 1A03; CHEM 1AA3; COMP SCI 1FC3, 1MA3, 1MD3, 1SA3; ENVIR SC 1A03, 1B03, 1LO3, 1GO3; KINESIOL 1Y03, 1YY3; MATH 1A03, 1AA3, 1B03, 1LS3; MATLS 1M03, PHYSICS 1B03, 1BA3, 1BB3, 1LO3; PSYCH 1AA3

**REQUIREMENTS: 30 UNITS**

- 9 units from BIOLOGY 1A03, 1M03, PSYCH 1A03, 1AA3
- 3 units from MATH 1A03, 1LS3
- 3 units from PHYSICS 1B03, 1LO3
- 9 units from Life Sciences Course List (See Notes 2, 3 and 4 above.)
- 6 units Electives (See Note 1 above.)

**MATHEMATICS AND STATISTICS I** {0320}

**NOTE**

Completion of COMP SCI 1MD3 is required for admission to the Honours Mathematics and Computer Science program.

**REQUIREMENTS: 30 UNITS**

- 12 units MATH 1B03, 1C03, 1X03, 1XX3
- 3 units from the Science I Course List (See above.)
- 15 units Electives

**PHYSICAL SCIENCES I** {0435}

**NOTES**

1. Completion of both BIOLOGY 1A03 and 1M03 is required for admission to Honours Medical and Health Physics or Honours Physics (Biophysics Specialization).
2. MATH 1B03 must be completed by the end of Level II, however, students are strongly encouraged to include it in Level I.

**PHYSICAL SCIENCES COURSE LIST**

ASTRON 1F03; BIOLOGY 1A03, 1M03; COMP SCI 1FC3, 1MA3, 1MD3, 1SA3; ENVIR SC 1A03, 1B03, 1GO3; KINESIOL 1Y03, 1YY3; MATH 1B03; MATLS 1M03; PHYSICS 1LO3; PSYCH 1AA3

**REQUIREMENTS: 30 UNITS**

- 6 units CHEM 1A03, 1AA3
- 6 units MATH 1A03, 1AA3
- 3 units PHYSICS 1B03
- 3 units from PHYSICS 1BA3, 1BB3
- 6 units from Physical Science Course List (See Note 1 above.)
- 6 units Electives

**HONOURS BACHELOR OF SCIENCE**

**KINESIOLOGY PROGRAM:**

**HONOURS KINESIOLOGY I** {0309}

**ENROLMENT IN THIS PROGRAM IS LIMITED.**

Effective 2008-2009, the Faculty will offer an Honours Bachelor of Science Kinesiology program. This direct entry program will replace the existing Honours Bachelor of Science (Hon. B.Sc.) degree program currently obtained by Kinesiology students registered in the Faculty of Science.

**NOTES**

1. Application is made to the Honours Kinesiology I program.
2. In addition to the Honours Bachelor of Science Kinesiology, the Department of Kinesiology offers an Honours Bachelor of Kinesiology as a program option beyond Level I for Kinesiology students. For further information and program requirements, see the Department of Kinesiology listing in the Faculty of Social Sciences section of this Calendar. Both programs provide students the opportunity to complete courses required for various professional degree programs. Students are strongly encouraged to seek advice in determining which program option is best suited for them.
3. Kinesiology students intending to complete the Honours Bachelor of Science Kinesiology program, who do not have credit in Grade 12 Calculus and Vectors U, should complete MATH 1F03 in Level I.
4. Completion of MATH 1A03 or 1LS3 may be deferred until Level II or beyond.

**REQUIREMENTS: 30 UNITS**

- 18 units KINESIOL 1A03, 1AA3, 1C03, 1GO3, 1F03, 1LO3
- 3 units from MATH 1A03, 1LS3 (See Note 4 above.)
- 9 units Electives (See Note 3 above.)

**BACHELOR OF MEDICAL RADIATION SCIENCES PROGRAM:**

**MEDICAL RADIATION SCIENCES I** {0345}

**ENROLMENT IN THIS PROGRAM IS LIMITED.**

**NOTES**

1. Students without Grade 12 Calculus and Vectors U must complete MATH 1F03.
2. Students without Grade 12 Physics U must complete PHYSICS 1LO3.
3. As places in the Medical Radiation Sciences program are limited, admission is by selection, and possession of published minimum requirements does not guarantee admission.
4. The University reserves the right to grant admission to a limited number of students and to refuse admission to any student whose academic performance or general conduct has been unsatisfactory, or who has withdrawn from the program for a period in excess of one academic year.

REQUIREMENTS: 30 UNITS

- 3 units BIOLOGY 1A03
- 6 units KINESIOL 1Y03, 1Y1Y3
- 3 units MATH 1A03
- 12 units MEDRADSC 1A03, 1B03, 1C03, 1D03
- 6 units Electives (See Notes 1 and 2 above.)

B. Degree Programs

Honours Bachelor of Science Programs

Most Departments or Schools offer an Honours B.Sc. Program and one or more Honours B.Sc. Programs with Specialization. An Honours B.Sc. requires the completion of a set of courses in a specific discipline and allows for interdisciplinary, and/or liberal arts studies through electives from other departments and faculties. An Honours B.Sc. with Specialization requires the completion of the same courses required for the Honours program as well as designated upper level courses in the specialization. Please refer to departmental program descriptions for details.

There are also four Honours Programs that provide a breadth of study in science. Each program requires a concentration of studies from one of the four areas of science: Geoscience, Life Science, Mathematical Science, or Physical Science. Students interested in the Honours Geoscience program are encouraged to see School of Geography and Earth Sciences in this section of the Calendar. Students interested in the Honours Life Science program are encouraged to see Honours Life Science Program in Interdisciplinary Programs in section of the Calendar. Students interested in Honours Mathematical Science are encouraged to see Department of Mathematics and Statistics in this section of the Calendar. Students interested in the Honours Physical Science program are encouraged to see Honours Physical Science in Interdisciplinary Programs in this section of the Calendar.

Students who successfully complete the first three levels of any Honours B.Sc. degree may request permission from the Office of the Associate Dean of Science (Studies) to transfer to graduate with a three-level B.Sc. Science degree.

ORIGINS RESEARCH SPECIALIZATION

The Specialization in Origins Research is designed to re-introduce Natural Science to students through various themes. This specialization may be combined with some B.Sc. Honours programs. See Origins Research Specialization in Interdisciplinary Programs in this section of the Calendar for more information.

CO-OP PROGRAMS

The Faculty of Science has Cooperative Education programs, beginning in Level II, in Honours Biochemistry, Honours Biology (Genetics Specialization), Honours Biology and Pharmacology, Honours Chemistry, Honours Earth and Environmental Sciences (last available in 2008-2009), Honours Mathematics and Statistics, Honours Medical and Health Physics, and Honours Physics.

Co-op programs have limited enrolment and admission is by selection. Please see the admission statement for each program in this section of the Calendar. Employment must be full-time during the work term. Students enrolled in the Co-op programs must be registered in full-time studies, including all prescribed courses, during the academic term of their program (a minimum of 24 units in a full-term; and at least 12 units in a half-term) and will be charged per unit registered. An additional Science Co-op fee will be charged for each academic term of a Co-op program. With written permission from the work term supervisor, academic work may be taken during each four-month period of a work term and the student will be responsible for the additional tuition.

For further information, please consult Science Career and Cooperative Education in the Faculty of Science.

INDUSTRIAL INTERNSHIPS

The Faculty of Science offers students the opportunity to participate in 12-16 month full-time paid work placements in industry that provide students with technical work experience related to their academic curriculum. Internship placements are available to students registered as full-time students in good standing in Level II or III of an Honours B.Sc. program and who will have at least 24 units left to complete upon their return. Students who qualify complete pre-employment preparation sessions. Students compete for placements with participating companies through an application and interview process. A fee is assessed following the start of the placement.

For further information, please consult Science Career and Cooperative Education in the Faculty of Science. For Computer Science Internships, please consult the Associate Dean of Science (Studies) or Engineering Co-op and Career Services in the Faculty of Engineering.

MINORS

Within the Faculty of Science, minors are available to students registered in an honours program only. In addition to the University's regulations governing the designation of a Minor, all Departments in the Faculty of Science require the inclusion of at least six units of Level III or IV courses to complete a Minor in a Science subject.

Depending on the student's program, there may be certain minors which are excluded. Please see the Program Notes for individual programs in this section of the Calendar.

Please see Minor in the General Academic Regulations section of this Calendar for further information. All courses have an enrolment capacity and the Faculty cannot guarantee registration in courses, even when all requisites have been met. Therefore, the completion of a Minor is not guaranteed.

Majors offered by the Faculty of Science include:
- Astronomy
- Biochemistry
- Biology
- Chemistry
- Computer Science
- Earth Science
- Environmental Science
- Geographical Information Systems (GIS)
- Mathematics and Statistics
- Physics
- Psychology

Bachelor of Science Programs

Three-level B.Sc. programs offered by the Faculty of Science include Geoscience, Life Science, Mathematical Science, and Physical Science. Students interested in the Geoscience program are encouraged to see School of Geography and Earth Sciences in this section of the Calendar. Students interested in the Life Science program are encouraged to see B.Sc. in Life Science in Interdisciplinary Programs in this section of the Calendar. Students interested in the Mathematical Science program are encouraged to see Department of Mathematics and Statistics in this section of the Calendar. Students interested in the Physical Sciences are encouraged to see B.Sc. in Physical Science in Interdisciplinary Programs in this section of the Calendar.

Students who successfully complete the first three levels of any Honours B.Sc. program may request permission from the Office of the Associate Dean of Science (Studies) to transfer to graduate with a B.Sc. Science degree.

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.
Students enrolled in Science programs, in addition to meeting the General Academic Regulations of the University, shall be subject to additional faculty regulations.

ADMISSION TO LEVEL II PROGRAMS

All Level I students who wish to be considered for admission to a Level II program in the Faculty of Science for the following Fall/Winter session must submit an Application for Admission to Level II through MUGS/ SOLAR (Student On-Line Academic Registration) by the University stated deadline (normally in early April). Students may rank up to four program choices and will be notified on their grade reports in June of their eligibility for the Level II programs.

Level I students must meet the admission criteria for a Level II program according to the Calendar in effect when they registered for Level I. Students must follow the program requirements of the Calendar in force when they enter Level II, except when a later Calendar explicitly modifies such requirements.

Students who have an Application for Admission to Level II may continue in the Faculty of Science, or apply to transfer to another Faculty.

LIMITED ENROLMENT PROGRAMS

Admission at Level II (and above) is limited for the following programs:

- Honours Biochemistry (Effective 2008-2009)
- Honours Biochemistry (Biotechnology and Genetic Engineering Specialization)
- Honours Biochemistry (Molecular Biology Specialization)
- Honours Biology (Effective 2008-2009)
- Honours Biology (Biodiversity Specialization) (Effective 2008-2009)
- Honours Biology (Genetics Specialization) (Effective 2008-2009)
- Honours Biology and Mathematics (Effective 2008-2009)
- Honours Biology (Microbiology and Biotechnology Specialization)
- Honours Biology (Physiology Specialization)
- Honours Biology and Psychology
- Honours Computational Biology (Effective 2008-2009)
- Honours Molecular Biology
- Honours Psychology
- Honours Psychology (Behavioural Neuroscience Specialization)
- Honours Psychology (Cognition and Perception Specialization)
- Honours Psychology (Developmental Specialization)
- Honours Psychology (Evolution and Social Behaviour Specialization)
- All programs combined with the Origins Research Specialization
- All Co-op programs, beginning at Level III, are limited enrolment.

REINSTATEMENT

A student who may not continue at the University may apply for reinstatement. Application for reinstatement must be made to the Office of the Registrar using the Reinstatement Request Form by the deadline for the session. See the Sessional Dates section of this Calendar. Reinstatement forms will be carefully reviewed and the evidence considered will include the student's academic performance before and after admission to McMaster, a letter of explanation supported by two letters of reference and other appropriate documentation. Reinstatement is not automatic or guaranteed. Decisions are normally made after June 30 for September entry. Effective September 1997, the Cumulative Average for students who are reinstated is reset to 0.0 on zero units. Credit is retained tor courses in which passing grades have been achieved. Note: If at a review after reinstatement the Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months. Former Medical Radiation Sciences students will be considered for reinstatement to their program upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Medical Radiation Sciences program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean of Science (Studies) or the Department of Medical Physics and Applied Radiation Sciences. The application deadline is April 30 for September entry. Reinstatement is not guaranteed.

DEADLINES

The Faculty of Science will not consider applications for admission, admission to a second degree or continuing studies, registration, deleting, cancelling, or adding of courses after the deadlines stated in this Calendar under Sessional Dates and Application Procedures, unless documentation showing good cause is submitted to the Office of the Associate Dean of Science (Studies).

LIMITED ENROLMENT COURSES

The Faculty of Science has two types of courses with enrolment limits and students must be aware of the following:

1. Courses requiring permission:
   - These courses have a prerequisite of: Permission of the Instructor, department, coordinator, chair, etc.

2. Courses requiring pre-registration preferential ballot:
   - The Psychology, Neuroscience and Behaviour Department pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D06, 4D09) and the Individual Study courses (PSYCH 2GQ3, 3GQ3, 3GQQ, 4GQ3, 4GQQ3). Students wishing to take these courses must complete and submit a ballot by mid-March. Students will be informed of the outcome of the first phase by mid-March. The second phase will include lab courses (PSYCH 3BL3, 3EE3, 3L03, 3LL3, 3S03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4F03, 4F07, 4F09, 4Y03). Students wishing to take these courses must complete and submit a ballot by mid-April. Specific dates will be announced during the Fall term. Ballots can be obtained from the Department of Psychology, Neuroscience and Behaviour's website at http://www.mcmaster.ca/psychology. Priority will be given to students registered in Honours Psychology and the Combined Honours Psychology programs.

WORKLOAD

All programs in the Faculty of Science may be taken by full-time and part-time students, with the exception of the Honours Co-op programs. Students enrolled in Co-op programs must maintain a full academic load during the study terms of their program. Students must maintain a full academic load during the Fall/Winter session to be eligible for scholarships available to full-time students. Students are expected to avoid timetable conflicts among their courses, and students on a full academic load should ensure the number of courses is balanced in each term.

Students who wish to take more courses than recommended for a single level of their program may do so if their Cumulative Average on completion of the previous Fall/Winter session is at least 7.0. Students registered in the final level of their program are permitted to overload by up to two additional units in order to become eligible to graduate.
FIELD COURSES
Field courses are offered through the Departments of Biology, the Medical Physics and Applied Radiation Sciences Unit and the School of Geography and Earth Sciences. Some of these courses are taken outside of the Fall/Winter session, during the spring or summer.

- Students who enroll in field courses must pay both:
  - a fee to the department to cover travel expenses, room and board and
  - the associated tuition fee to McMaster at Fall registration.

Although students initially register for field courses through the appropriate departmental offices, it is their responsibility to include field courses on their registration forms for the appropriate Fall/Winter session.

Detailed information regarding field courses and deadlines for registration may be obtained from the individual departmental offices.

LETTER OF PERMISSION
All students in good academic standing with the exception of students registered in second degree programs, may apply to the Office of the Associate Dean of Science (Studies) to take courses at another university on Letter of Permission. Students must achieve a grade of at least C- for transfer of credit. The transcript designation reads COM, indicating complete, when a grade of C- or better is attained, or NC, indicating not complete, when a grade of less than C- is attained.

Required courses given by the department offering the program may not be taken elsewhere unless departmental approval is given. Electives may be taken elsewhere.

Courses taken at another university cannot be used to satisfy the university's minimum residence requirements, will not be included in the calculation of the Cumulative or Sessional Averages, and therefore cannot be used to raise standing. Students may take up to six units of courses towards a Minor on Letter of Permission.

STUDENT EXCHANGES
McMaster University has agreements with institutions in Canada and abroad including Australia, France and the United Kingdom to provide students with the opportunity to participate in an exchange program for one year or term. Exchanges allow students to gain a varied perspective on their course of study and enhance their professional and personal goals. In addition, exchange programs offer students the most inexpensive means of studying abroad as students participating in these exchanges avoid the foreign fees by paying fees to McMaster.

All students must complete at least one year of continuous study and be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programs go abroad for the third level of an Honours program.

Students interested in these opportunities should begin discussions with the Office of the Associate Dean of Science (Studies) about one year before they plan to enroll elsewhere. Students must propose and submit an academic program to their Department for approval. Academic approval must be completed by the end of February for registration in the following Fall/Winter session. In certain cases, students may be recommended for the Deans' Honour List on the basis of work undertaken while on exchange.

For further information please see International Study in the General Academic Regulations section in this Calendar. Information concerning exchanges can also be found in the Academic Services and Organizations section of this Calendar under the heading Centre for Student Development, International Student Services.

Acceptance to the Ontario and University-wide Exchange Programs is by recommendation. Application forms can be obtained from:

- Centre for Student Development
- Student Exchanges
  Gilmour Hall, Room 104
  Telephone: (905) 525-9140, extension 24748

TRANSFER PROCEDURES
Students in Levels II or III who wish to transfer to another program in the Faculty of Science must speak with an Academic Advisor in the Office of the Associate Dean (Studies).

GRADUATION
From Honours B.Sc. and B.Sc. Programs
To graduate from a program, students must meet all course requirements for their degree program.

The requirements for graduation from these programs are described under the heading Graduation in the General Academic Regulations section in this Calendar.

Transferring to Graduates with a Three-Level B.Sc. Degree from an Honours B.Sc. Program
Students who successfully complete the first three levels of any Honours B.Sc. degree may request permission from the Office of the Associate Dean of Science (Studies) for transfer to graduate with a three-level B.Sc. Science degree.

DEPARTMENT OF BIOCHEMISTRY
AND BIOMEDICAL SCIENCES

WEB ADDRESS:  http://www.fhs.mcmaster.ca/biochem/

Honours Art & Science and Biochemistry (B.Arts.Sc; See Arts & Science Program)

Honours Life Science
(See Interdisciplinary Programs)

NOTES APPLICABLE TO ALL HONOURS BIOCHEMISTRY PROGRAMS

1. In addition to the Honours Biochemistry program, the Department offers two specializations. The Honours program has a specified set of basic requirements and a wide choice of electives (including those from outside the Faculty of Science), allowing for interdisciplinary studies or the opportunity to complete a Minor in another subject. Alternatively, students may wish to select one of the following specializations which are strongly recommended for students intending to pursue graduate studies.
   - Biotechnology and Genetic Engineering Specialization
   - Molecular Biology Specialization

Honours Biochemistry may also be combined with the Origins Research Specialization. Admission to the specializations is limited. Selection is based on academic achievement but requires, as a minimum, completion of the Level I requirements listed below for all Honours Biochemistry Specializations.

2. Transfer between programs is possible, at any time, subject to satisfying the admission requirements and availability of space.

Honours Biochemistry

NOTES

1. Students who have not completed PHYSICS 1B03 will be considered for admission, however, completion of the course is required by the end of Level II.

2. While STATS 1CC3 is strongly recommended, students will also be considered for admission if they have completed MATH 1A03 instead of STATS 1CC3.

ADMISSION

2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 6.0 including:

- 6 units BIOLOGY 1A03, 1A3
- 6 units CHEM 1A03, 1A3
- 3 units MATH 1A03
- 3 units PHYSICS 1B03 (See Note 1 above.)
- 3 units STATS 1CC3 (See Note 2 above)
- 3 units from Science I Course List

A grade of at least C+ in four of BIOLOGY 1A03, 1A3, CHEM 1A03, 1A3 and MATH 1A03 is required.

EFFECTIVE 2008-2009: Enrolment in this program will be limited. Admission is by selection but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including completion of all courses with minimum grades listed above.
NOTES
1. There are Level II (and III) prerequisites for many Level III (and IV) courses. The prerequisites should be considered when choosing Level II and III courses.
2. BIOLOGY 2B03 may be deferred until Level III, however, students planning to apply for admission to a Biochemistry Co- program must take BIOLOGY 2B03 in Level II.
3. A Minor in Biology or Chemistry is not permitted in the Honours Biochemistry program.
4. Students are reminded that biochemical laboratory experience is highly valuable in many careers. The laboratory course BIOCHEM 2L06 which is required for all Honours Biochemistry students may not, by itself, be sufficient for many purposes. Consequently, students who are not taking a research project or thesis course should consider BIOCHEM 3A03.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units BIOCHEM 2B03, 2B3, 2L06, BIOLOGY 2B03 (See Note 2 above.), CHEM 2R03
6 units from either CHEM 2A03 and 2OB3; or CHEM 2BA3 and 2BB3
6 units Electives

LEVEL III: 30 UNITS
9 units BIOCHEM 3D03, BIOLOGY 2C03, CHEM 2N03
21 units Electives

LEVEL IV: 30 UNITS
6 units BIOCHEM 4E03, 4N03
3 units from BIOCHEM 3AA3, 4C03
3 units from BIOCHEM 3A03, 3H03, 3N03, 4H03, 4Q03
6 units Levels III, IV Biochemistry, BIOLOGY 3003, 4V03, HTH SCI 3103, MOL BIOL 4H03
12 units Electives

Honours Biochemistry (Biotechnology and Genetic Engineering Specialization) {2040806}

1. Students who have not completed PHYSICS 1B03 will be considered for admission, however, completion of the course is required by the end of Level II.
2. While STATS 1CC3 is strongly recommended, students will also be considered for admission if they have completed MATH 1AA3 instead of STATS 1CC3.

ADMISSION
Enrolment is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units MATH 1A03
3 units PHYSICS 1B03 (See Note 1 above.)
3 units STATS 1C03 (See Note 2 above.)
3 units from Science I Course List
A grade of at least C+ in four of BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3 and MATH 1A03 is required.

NOTES
1. Completion of one of BIOCHEM 4B06, 4F09, 4P03 is required in Level IV. Students who do not obtain the minimum Cumulative Average as stated in the prerequisites, may request a requisite waiver from the Undergraduate Associate Chair. Students denied permission may not continue in the program and may apply to transfer to the Honors Biochemistry program.
2. Students who have completed BIOCHEM 4K03 are not required to complete BIOCHEM 4N03.

REQUIREMENTS
120-121 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
21 units BIOCHEM 2B03, 2B3, 2L06, BIOLOGY 2B03, CHEM 2R03, CHEM ENG 2B03
6 units from CHEM 2A03 and 2OB3; or CHEM 2BA3 and 2BB3
3 units Electives

LEVEL III: 30-31 UNITS
21 units BIOCHEM 3D03, 3P03, 4L3, BIOLOGY 2C03, 2EE3, CHEM 2N03, 3FF3 (See Note 2 above.)
3-4 units Levels III, IV Biochemistry, Biology, Chemistry, CHEM ENG 3K04, 3BK3, MOL BIOL 4H03
6 units Electives

LEVEL IV: 30 UNITS (2007-2008 ONLY)
15 units BIOCHEM 4E03, 4H03, 4L3, 4N03, BIOLOGY 3003 (See Note 3 above.)
9 units Levels III, IV Biochemistry, Biology, Chemical Engineering, Chemistry, MOL BIOL 4H03, which must include one of BIOCHEM 4B06, 4F09, 4P03 (See Note 1 above.)
6 units Electives

LEVEL IV: 30 UNITS (EFFECTIVE 2008-2009)
12 units BIOCHEM 4E03, 4H03, 4N03, BIOLOGY 3003
12 units Levels III, IV Biochemistry, Biology, Chemical Engineering, Chemistry, MOL BIOL 4H03, which must include one of BIOCHEM 4B06, 4F09, 4P03 (See Note 1 above.)
6 units Electives

Honours Biochemistry (Computational and Physical Biochemistry Specialization)

The Honours Biochemistry (Computational and Physical Biochemistry Specialization) is no longer available. Level I students who intended to register in this program should contact the Office of the Associate Dean of Science (Studies) to discuss an alternate choice.

Honours Biochemistry (Molecular Biology Specialization)

1. Students who have not completed PHYSICS 1B03 will be considered for admission, however, completion of the course is required by the end of Level II.
2. While STATS 1CC3 is strongly recommended, students will also be considered for admission if they have completed MATH 1AA3 instead of STATS 1CC3.

ADMISSION
Enrolment is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units BIOLOGY 1A03, 1AA3
6 units CHEM 1A03, 1AA3
3 units MATH 1A03
3 units PHYSICS 1B03 (See Note 1 above.)
3 units STATS 1C03 (See Note 2 above.)
3 units from Science I Course List
A grade of at least C+ in four of BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3 and MATH 1A03 is required.

NOTES
1. Completion of one of BIOCHEM 4B06, 4F09, 4P03 is required in Level IV. Students who do not obtain the minimum Cumulative Average as stated in the prerequisites, may request a requisite waiver from the Undergraduate Associate Chair. Students denied permission may not continue in the program and may apply to transfer to the Honors Biochemistry program.
2. Students who have obtained appropriate research experience may request permission from the Department to take three units of Levels III, IV Biochemistry instead of BIOCHEM 3P03.
REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units BIOCHEM 2B03, 2BB3, 2L06, BIOLOGY 2B03, CHEM 2R03
6 units from CHEM 2OA3 and 2OB3; or CHEM 2BA3 and 2BB3
6 units Electives

LEVEL III: 30 UNITS
18 units BIOCHEM 3C03, 3D03, 3P03, BIOLOGY 2C03, CHEM 2N03, 3FF3 (See Note 2 above.)
3 units Levels III, IV Biochemistry, Biology, Chemistry, MOL BIOL 4H03
9 units Electives

LEVEL IV: 30 UNITS
12 units BIOCHEM 4E03, 4EE3, 4N03, BIOLOGY 3003
12 units Levels III, IV Biochemistry, Biology, Chemistry, MOL BIOL 4H03, which must include one of BIOCHEM 4B06, 4F09, 4P03 (BIOCHEM 4S03, 4Y03 are recommended.) (See Note 1 above.)
6 units Electives

Honours Biochemistry (Origins Research Specialization) 2040412

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including completion of all courses with minimum grades.
6 units BIOLOGY 1A03, 1A3
6 units CHEM 1A03, 1A3
3 units MATH 1A03
3 units PHYSICS 1B03
3 units from MATH 1A3, 1B03, 1D03, STATS 1CC3
3 units from ASTRON 1F03, PHYSICS 1BA3, 1BB3
A grade of at least C+ in four of BIOLOGY 1A03, 1A3, CHEM 1A03, 1AA3 and MATH 1A3 is required.

NOTE
Completion of ORIGINS 2B03, 2FF3 and 2S03 is required by the end of Level III.

ORIGINS COURSE LIST
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units BIOCHEM 2B03, 2BB3, 2L06, BIOLOGY 2B03, CHEM 2R03
6 units from CHEM 2OA3 and 2OB3; or CHEM 2BA3 and 2BB3
3 units from ORIGINS 2B03, 2FF3 (See Note above.)
3 units ORIGINS 2S03

LEVEL III: 30 UNITS
9 units BIOCHEM 3D03, BIOLOGY 2C03, CHEM 2N03
3 units from ORIGINS 2B03, 2FF3
6 units from the Origins Course List
3 units ORIGINS 3S03
9 units Electives

LEVEL IV: 30 UNITS
6 units BIOCHEM 4E03, 4N03
3 units from BIOCHEM 3A03, 4C03
3 units from BIOCHEM 3H03, 3N03, 4H03, 4Q03
6 units Levels III, IV Biochemistry, Biology, Chemistry, MOL BIOL 4H03
9 units ORIGINS 4A09
3 units Electives

Honours Biochemistry Co-op Programs
Students who are entering Level III Honours Biochemistry Co-op have a choice between two specializations:
• Molecular Biology Specialization;
• Biotechnology and Genetic Engineering Specialization

Enrolment in these programs is limited. Selection is based on academic achievement and an interview but requires, as a minimum, a Cumulative Average of at least 7.0 and completion of either Level II Honours Biochemistry or Honours Molecular Biology. Information about the program and the selection procedure may be obtained from Science Career and Cooperative Education.

Honours Biochemistry (Biotechnology and Genetic Engineering Specialization Co-op) 2046

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, a Cumulative Average of at least 7.0 and completion of either Level II Honours Biochemistry or Honours Molecular Biology.

NOTES
1. This is a five-level (year) co-op program which includes two eight-month work terms which must be spent in Biochemistry related placements.
2. Students must be registered full-time and take a full academic workload, as prescribed by Level and Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. There are Level II and III prerequisites for many Level III and IV courses. The prerequisites should be considered when choosing Level II and III courses.
5. Students who have obtained appropriate research experience may request permission from the Department to take three units of Levels III, IV Biochemistry instead of BIOCHEM 3P03.
6. Students who have received exemption from BIOCHEM 3P03 have the option of registering in BIOCHEM 4P03 in Level IV instead of registering in BIOCHEM 4P03 in Term 2 of Level V.

REQUIREMENTS
120 units total (Levels I to V), of which no more than 48 units may be Level I

LEVEL I
30 units Completed prior to admission to the program

LEVEL II: 30 UNITS
30 units Completion of any Level II Honours Biochemistry or the Honours Molecular Biology program, including completion of BIOLOGY 2B03

LEVEL III
Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term

TERM 1 (FALL): 15 UNITS
9 units BIOCHEM 3D03, BIOLOGY 2C03, 2EE3
6 units Electives, which must include CHEM ENG 2B03 if not completed
1 course SCIENCE 2C00

TERM 2 (WINTER) AND SUMMER
Work Term (eight-month)

LEVEL IV
Consists of Academic Term 1 (Fall) and Term 2 (Winter), and the first half of the second eight-month work term, Summer Term

TERMS 1 AND 2 (FALL AND WINTER): 30-31 UNITS
18 units BIOCHEM 3P03, 4E03, 4H03, BIOLOGY 3003, CHEM 2N03, 3FF3 (See Note 5 above.)
0-6 units BIOCHEM 4B06 (See Notes 5 and 6 above.)
3-10 units Levels III, IV Biochemistry, Biology, Chemistry, CHEM ENG 3B03, 3K04, MOL BIOL 4H03
3 units Electives

SUMMER
Work Term

LEVEL V
Consists of completion of the second half of the second eight-month work term, Term 1 (Fall) and 15 units Academic, Term 2 (Winter)
FACULTY OF SCIENCE

TERM 1 (FALL)
Work Term

TERM 2 (WINTER): 15 UNITS
6 units BIOCHEM 4LL3, 4N03
0-3 units BIOCHEM 4P03 (required if BIOCHEM 4B06 not completed in Level IV)
6-9 units Electives

Honours Biochemistry {2045}
(Molecular Biology Specialization Co-op)

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, a Cumulative Average of at least 7.0 and completion of either Level II Honours Biochemistry or Honours Molecular Biology.

NOTES
1. This is a five-level (year) co-op program which includes two eight-month work terms which must be spent in Biochemistry related placements.
2. Students must be registered full-time and take a full academic workload, as prescribed by Level and Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. There are Level II and III prerequisites for many Level III and IV courses. The prerequisites should be considered when choosing Level II and III courses.
5. Students who have obtained appropriately appropriate experience may request permission from the Department to take three units of Levels III, IV Biochemistry instead of BIOCHEM 3P03.
6. Students who have received exemption from BIOCHEM 3P03 have the option of registering in BIOCHEM 4B06 in Level IV instead of registering in BIOCHEM 4P03 in Term 2 of Level V.

REQUIREMENTS
120 units total (Levels I to V), of which no more than 48 units may be Level I

LEVEL I: 30 UNITS
30 units Completed prior to admission to the program

LEVEL II: 30 UNITS
30 units Completion of any Level II Honours Biochemistry or the Honours Molecular Biology program, including completion of BIOLOGY 2B03

LEVEL III
Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term

TERM 1 (FALL): 15 UNITS
6 units BIOCHEM 3D03, BIOLOGY 2C03
3 units Levels III, IV Biochemistry, Biology, Chemistry, MOL BIO 4H03
6 units Electives
1 course SCIENCE 2C00

TERM 2 (WINTER) AND SUMMER
Work Term (eight-month)

LEVEL IV
Consists of Academic Term 1 (Fall) and Term 2 (Winter), and the first half of the second eight-month work term, Summer Term

TERMS 1 AND 2 (FALL AND WINTER): 30 UNITS
18 units BIOCHEM 3C03, 3P03, 4E03, BIOLOGY 3003, CHEM 2N03; 3F3 (See Note 5 above.)
0-6 units BIOCHEM 4B06 (See Notes 5 and 6 above.)
3-9 units Levels III, IV Biochemistry, Biology, Chemistry (BIOCHEM 4EE3, 4S03 are recommended.)
3 units Electives

SUMMER
Work Term

LEVEL V
Consists of completion of the second-half of the second eight-month work term, Term 1 (Fall) and 15 units Academic Term 2 (Winter)

TERM 1 (FALL)
Work Term

TERM 2 (WINTER): 15 UNITS
6 units BIOCHEM 4EE3, 4N03
0-3 units BIOCHEM 4P03 (required if BIOCHEM 4B06 not completed in Level IV)
6-9 units Electives (BIOCHEM 4Y03 is recommended.)

Minor in Biochemistry

REQUIREMENTS
24 units total
6 units from CHEM 1A03, 1A3
6 units from CHEM 20A3 and 20B3; or CHEM 2B03 and 2BB3
6 units from BIOCHEM 2B03, 2BB3, 3EE3, 3B03, 3BB3, 3D03, 3G03
6 units Levels III, IV Biochemistry

DEPARTMENT OF BIOLOGY

WEB ADDRESS: http://www.science.mcmaster.ca/biology/

Honours Arts & Science and Biology
(B.A.Sc.; See Arts & Science Program)

Honours Life Science
(See Interdisciplinary Programs)

Honours Molecular Biology
(See Interdisciplinary Programs)

Honours Philosophy and Biology
(B.A.; See Faculty of Humanities, Department of Philosophy)

Honours Biology

NOTES APPLICABLE TO ALL HONOURS BIOLOGY PROGRAMS
1. In addition to the Honours Biology program, the Department offers four specializations. All options are suitable for students wishing to pursue graduate studies in Biology. While the Honours program has a specified set of basic requirements and a wide choice of electives (including those from outside the Faculty of Science), allowing for interdisciplinary studies or the opportunity to complete a Minor in another subject, the specializations reflect the Department’s research strengths. The specializations currently available are:
   - Biodiversity Specialization
   - Genetics Specialization
   - Microbiology and Biotechnology Specialization
   - Physiology Specialization

Honours Biology may also be combined with the Origins Research Specialization.

2. Transfer between programs is possible at any time, subject to satisfying the admission requirements and availability of space.

3. There are Level II and III prerequisites for many Level III and IV courses. The prerequisites should be considered when choosing Level II and III courses.

4. Students interested in registering in more mathematics courses are encouraged to complete STAT 3MA3 in addition to STAT 1CC3. Those students wishing to include more mathematical statistics may replace STAT 1CC3, 2MA3 with STAT 2D03, 2MB3. In this case, students are advised to register in MATH 1B03 or 1D03 in Level I.
5. Admission to Honours Biology and Pharmacology (Co-op) requires completion of CHEM 20A3 and 20B3. Students are strongly recommended to register in BIOLOGY 2A03 while registered in Level II.

6. Students considering graduate studies in Biology are recommended to complete BIOLOGY 4C09 or 4F06.

Honours Biology {2050808}

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
3 units MATH 1A03
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
3 units from Science I Course List

EFFECTIVE 2008-2009: Enrolment in this program is limited and admission is by selection but requires as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including completion of all courses with minimum averages listed above.

NOTES
1. Students interested in the Biodiversity Specialization are recommended to register in at least one of ENVIR SC 1A03, 1B03 or 1G03 in Level I or II.
2. Honours Biology students are encouraged to complete more Statistics. (See Note 4 under Notes Applicable to all Honours Biology programs in this section of the Calendar.)
3. BIOLOGY 20508 14 may be completed in Level III or IV. If it is completed in Level III, students must take 12 units from the Biodiversity Course List in Level III. If it is completed in Level IV, students must take nine units from the Biodiversity Course List in Level IV.
4. Students must complete 24 units from the Biodiversity Course List by the end of Level IV.
5. Students who wish to take the following courses should take both CHEM 20A3 and 20B3: BIOCHEM 3G03, BIOLOGY 3CC3, 3F03; 4B03, 4F03, 4G03, more advanced Chemistry and Biology courses. Students are advised to check prerequisites carefully.

Biodiversity Course List
BIOLOGY 2A03, 2B03, 2EE3, 2803, 3B03, 3B04, 3E03, 3MM3, 3R03, 3S03, 3S04, 3T03, 3U03, 3Y03, 4A03, 4D03, 4E03, 4J03, 4P03, 4X03, 4Y03; GEO 2A03, 2B03, 2C03, 2D03, 2E03, 2F03, 2G03, 2H03, 3A03, 3G03, 3J03, 3S03, 3T03, 3U03, 3W03, 4A03, 4B03, 4J03, 4X03, 4Y03; PSYCH 2F03, 2J03, 3A03, 3F03, 3G03, 3H03, 3J03, 3N03, 4A03, 4B03, 4C03, 4F03, 4G03, 4H03, 4P03, 4S03, 4T03, 4U03, 4V03, 4W03.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I: 30 UNITS
30 units (See Admission above.)

LEVELS II-IV: 90 UNITS
3 units from CHEM 2E03, 20A3
3 units BIOCHEM 2E03
18 units from BIOLOGY 2A03, 2B03, 2C03, 2D03, 2E03, 2F03 (See Notes 3 and 4 above.)
12 units from Biology Course List
12 units Levels III, IV Biology
9 units BIOLOGY 4C09 or
9 units BIOLOGY 4F06 and three units from Biology Course List
33 units Electives (See Note 2 above.)

Honours Biology {2050812}

(Biodiversity Specialization)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
3 units MATH 1A03
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
3 units from Science I Course List

EFFECTIVE 2008-2009: Enrolment in this program is limited and admission is by selection but requires as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including completion of all courses with minimum averages listed above.

NOTES
1. Students interested in the Biodiversity Specialization are recommended to register in at least one of ENVIR SC 1A03, 1B03 or 1G03 in Level I or II.
2. Students are encouraged to complete more Statistics. (See Note 4 under Notes Applicable to all Honours Biology programs in this section of the Calendar.)
3. BIOLOGY 20508 14 may be completed in Level III or IV. If it is completed in Level III, students must take 12 units from the Biodiversity Course List in Level III. If it is completed in Level IV, students must take nine units from the Biodiversity Course List in Level IV.
4. Students must complete 24 units from the Biodiversity Course List by the end of Level IV.
5. Students who wish to take the following courses should take both CHEM 20A3 and 20B3: BIOCHEM 3G03, BIOLOGY 3CC3, 3F03; 4B03, 4F03, 4G03, more advanced Chemistry and Biology courses. Students are advised to check prerequisites carefully.

Biodiversity Course List
BIOLOGY 2A03, 2B03, 2EE3, 2803, 3B03, 3B04, 3E03, 3MM3, 3R03, 3S03, 3S04, 3T03, 3U03, 3Y03, 4A03, 4D03, 4E03, 4J03, 4P03, 4X03, 4Y03; GEO 2A03, 2B03, 2C03, 2D03, 2E03, 2F03, 2G03, 2H03, 3A03, 3G03, 3J03, 3S03, 3T03, 3U03, 3W03, 4A03, 4B03, 4J03, 4X03, 4Y03; PSYCH 2F03, 2J03, 3A03, 3F03, 3G03, 3H03, 3J03, 3N03, 4A03, 4B03, 4C03, 4F03, 4G03, 4H03, 4P03, 4S03, 4T03, 4U03, 4V03, 4W03.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I: 30 UNITS
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units from CHEM 2E03, 20A3
18 units BIOCHEM 2E03, BIOLOGY 2C03, 2D03, 2F03, 2G03, GEO 2103
9 units Electives (See Note 5 above.)

LEVEL III: 30 UNITS
6 units BIOLOGY 3FF3, 3G03
15 units from Biodiversity Course List, including at least six units from Biology courses (See Note 4 above.)
3 units from Biology Course List
6 units Electives

LEVEL IV: 30 UNITS
3 units BIOLOGY 4A03
3 units BIOLOGY 4E03 (See Note 3 above.)
9-12 units from Biodiversity Course List, including at least six units from Biology courses (See Note 4 above.)
9 units BIOLOGY 4C09; or BIOLOGY 4F06 and three units from Biology Course List (See Note 6 above.)
6 units Electives

Honours Biology {2050814}

(Bioinformatics Specialization)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
3 units MATH 1A03
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
3 units from Science I Course List
**FACULTY OF SCIENCE**

**EFFECTIVE 2008-2009**: Enrolment in this program is limited and admission is by selection but requires as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including completion of all courses with minimum averages listed above.

**NOTES**

1. Students registered in the Genetics Specialization are encouraged to complete PHIL 2D03 or 2G03 as an elective.
2. Students with mathematical interests are encouraged to register in Mathematical Statistics. (See Note 4 under Notes Applicable to all Honours Biology Programs in this section of the Calendar.)
3. Students in the Genetics Specialization must complete BIOLOGY 2B03, 2C03 and BIOCHEM 2EE3 in Level II.
4. BIOLOGY 2A03 and 2F03 are strongly recommended.
5. Completion of BIOLOGY 4C09 is required in Level IV. Students who do not obtain the minimum Cumulative Average as stated in the prerequisite, may request a requisite waiver from the Undergraduate Associate Chair. Students denied permission may not continue in the program and may apply to transfer to the Honours Biology program.
6. Students who registered in the program prior to September 2007 may use BIOLOGY 2EE3 toward the Genetics Course List.

**GENETICS COURSE LIST**

BIOCHEM 3G03, 3H03, 3E03, BIOLOGY 3CC3, 3E03, 3H03, 3J03, 3M03, 3S03, 3V03, 3Y03, 4B03, 4D03, 4E03, 4EE3, 4P03, 4PP3, 4V03, 4X03; MOL BIOL 4H03

**REQUIREMENTS**

120 units total (Levels I to IV), of which no more than 48 units may be Level I

**LEVEL I: 30 UNITS**

30 units (See Admission above.)

**LEVEL II: 30 UNITS**

6 units CHEM 2A03, 2B03
15 units BIOCHEM 2EE3, BIOLOGY 2B03, 2C03, 2D03, 2EE3 (See Note 6 above.)
9 units Electives (See Note 4 above.)

**LEVEL III: 30 UNITS**

12 units from BIOLOGY 3FF3, 3H03, 3I03, 3O03, 3S03
9 units from Genetics Course List
9 units Electives

**LEVEL IV: 30 UNITS**

12 units BIOLOGY 4C09, 4R03 (See Note 5 above.)
3 units from BIOLOGY 3FF3, 3H03, 3I03, 3O03, 3S03 (whichever is not completed)
9 units from Genetics Course List
6 units Electives

Honours Biology *(Microbiology and Biotechnology Specialization)*

**ADMISSION**

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including:

6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
3 units MATH 1A03
6 units CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units from MATH 1AA3, 1BB3, 1DD3, STATS 1CC3
3 units from ASTRON 1F03, PHYSICS 1BA3, 1BB3

**NOTES**

1. Completion of ORIGINS 2B03, 2FF3 and 2S03 is required by the end of Level III.
2. Students who wish to take BIOCHEM 3G03, BIOLOGY 3CC3, 3P03, 4B03, 4T03 must complete both CHEM 2OA3 and 2OB3. Students are advised to check prerequisites carefully.
3. Students who entered the program prior to 2007 are not required to complete BIOLOGY 2EE3; instead it may be used to satisfy three units of Biology Course List.
4. Students are encouraged to complete BIOLOGY 2A03, 2B03, 2C03, 2D03, 2EE3 by the end of 90 units. If necessary, three of these units may be completed by the end of 90 units. Careful review of prerequisites is recommended.

**BIOLOGY COURSE LIST**

BIOLOGY 2G03, all Biology Level III and IV courses (except BIOLOGY 3G03, 3Q03); BIOCHEM 2B03, 2BB3, 3G03, 3H03, 3N03, 4E03, 4E03, 4K03, 4Q03; CHEM ENG 2B03, GEO 2A03, 2B03, 2C03, 2D03, 2E03, 2Q03, 2W03, 3A03, 3I03, 3J03, 3S03, 3A03, 4B03, 4C03, 4F03, 4J03, 4M03, 4P03, 4Q03, 4R03, 4U03, 4V03, 4W03; MOL BIOL 4H03, 4J03; PSYCH 2F03, 2T03, 3A03, 3F03, 3T03, 3V03, 4R03, 4Y03

**ORIGINS COURSE LIST**

ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

**REQUIREMENTS**

120 units total (Levels I to IV), of which no more than 48 units may be Level I

**LEVEL I**

30 units (See Admission above.)
LEVELS II-IV: 90 UNITS

3 units from CHEM 2E03, 2OA3
3 units from BIOCHEM 2EE3
18 units BIOLOGY 2A03, 2B03, 2C03, 2D03, 2EE3, 2F03 (See Notes 3 and 4 above.)
21 units ORIGINS 2B03, 2FF3, 2S03, 3S03, 4A09 (See Note 1 above.)
12 units - Levels III, IV Biology
12 units from Biology Course List
6 units from Origins Course List
15 units Electives

Honours Biology (2050444)

(Physiology Specialization)

ADMISSION

Enrolment in this program is limited. Admission is by selection but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:

- 6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
- 3 units MATH 1A03
- 6 units CHEM 1A03, 1AA3
- 3 units PHYSICS 1B03
- 3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
- 3 units from Science I Course List

NOTES

1. It is recommended that students take both PSYCH 1A03 and 1AA3 if they are interested in upper level Psychology courses.
2. All students must take BIOLOGY 2A03 in Level II.
3. Completion of BIOLOGY 4C09 is required in Level IV. Students who do not obtain the minimum Cumulative Average as stated in the prerequisite, may request a requisite waiver from the Undergraduate Associate Chair. Students denied permission may not continue in the program and may apply to transfer to the Honours Biology program.

PHYSIOLOGY COURSE LIST

- BIOA3, 3B03, 3F03, 3FF3, 3K03, 3M03, 3MM3, 3R03, 3S03, 3SS3, 3TT3; KINESIOL 2C06, 3Y03, 4C03, 4CC3, MED PHYS 4B03; PSYCH 2D03, 2E03, 2F03, 2TT3, 3A03, 3F03, 3FA3, 3J03, 3S03, 3TT3, 4Y03

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

6 units - CHEM 2OA3, 2OB3
12 units BIOLOGY 2A03, 2B03, 2C03, 2D03, 2EE3 (See Note 2 above.)
12 units Electives

LEVEL III: 30 UNITS

15 units BIOCHEM 3G03, BIOLOGY 3P03, 3U03, 3UU3, 3ZZ3
9 units from Physiology Course List
6 units Electives

LEVEL IV: 30 UNITS

9 units from BIOLOGY 4C09 (See Note 3 above.)
3 units from BIOLOGY 4D03, 4X03
12 units from Physiology Course List
6 units Electives

Honours Biology and Mathematics (2050320)

ADMISSION

2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 6.0, including:

- 6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
- 9 units MATH 1A03, 1AA3, 1B03 with an average of at least 6.0
- 6 units CHEM 1A03, 1AA3
- 3 units Electives from Science I Course List

*Students who have not completed Grade 12 Discrete Mathematics U or Grade 12 Calculus and Vectors U must take MATH 1F03 as a prerequisite for MATH 1B03.

EFFECTIVE 2008-2009: Enrolment in this program is limited and admission is by selection but requires, as a minimum completion of any Level I program with a Cumulative Average of at least 6.0, including completion of all courses and averages listed above.

NOTES

1. Students who have not completed Grade 12 Discrete Mathematics U or Grade 12 Calculus and Vectors U must take MATH 1F03 as a prerequisite for MATH 1B03.

2. Students are advised to carefully note graduate program requirements.

3. Students must complete at least nine units from Level IV Biology courses.

4. A Minor in Statistics is not permitted in the Honours Biology and Mathematics program.

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

6 units BIOLOGY 2C03, 2F03
8 units from BIOCHEM 2EE3, BIOLOGY 2A03, 2B03, 2D03, 2EE3
12 units MATH 2C03, 2R03, 2X03, 2XX3
6 units Electives

LEVEL III: 30 UNITS

12 units Levels III, IV Biology (See Note 5 above.)
6 units MATH 3A03, 3X03
6 units from Levels II, III, IV Mathematics or Statistics
6 units Electives

LEVEL IV: 30 UNITS

9 units Levels III, IV Biology (See Note 5 above.)
12 units Levels III, IV Mathematics or Statistics which must include at least three units of Level IV
9 units Electives

Honours Biology and Psychology (2050460)

ADMISSION

2007-2008 ONLY: Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including:

- 6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
- 3 units PSYCH 1A03 with a grade of at least C+
- 6 units from CHEM 1A03, 1AA3 with an average of at least 6.0
- 3 units MATH 1A03
- 3 units PHYSICS 1B03
- 3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3 (See Notes 7 and 8 below.)

PSYCH 1A03 must be completed by the end of Level I and is strongly recommended in Level I.

EFFECTIVE 2008-2009: Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 7.0, including:

- 6 units BIOLOGY 1A03, 1AA3 with an average of at least 7.0
- 6 units a grade of at least B in both PSYCH 1A03 and 1AA3
- 6 units CHEM 1A03, 1AA3 with an average of at least 7.0
- 3 units MATH 1A03
- 3 units PHYSICS 1B03
- 3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3 (See Note 8 below.)

NOTES

1. Counselling for this program is shared by the Departments of Biology and Psychology, Neuroscience and Behaviour and alternates each year.

2. MATH 1B03 or 1D03 and PHYSICS 1BB3 are strongly recommended for students intending to pursue graduate work in Experimental Psychology or Neuroscience.
3. In Level III or IV students must complete at least one laboratory course in Psychology (see Psychology Lab Course List). Enrolment is limited for the Psychology laboratory courses. (See Notes 9, 10 and 11 below.)

4. Students who wish to obtain scholarships should complete all 30 units of Levels II and III in the fall and winter terms.

5. A Minor in Biochemistry is not permitted in the Honours Biology and Psychology program.

6. Students who have completed KINESIOL 3E03 may use it as a substitute for three units of Level III Psychology. Students who have completed KINESIOL 4P03 may use it as a substitute for three units of Level IV Psychology.

7. Students who are registered in this program prior to September 2006 and who have completed PSYCH 2RR3 and STATS 1C03 do not need to complete PSYCH 2RA3 and 2RB3. Beginning September 2006, students with credit in STATS 1C03 but not PSYCH 2RR3 must complete both PSYCH 2RA3 and 2RB3.

8. Students wishing to have more mathematical statistics may replace PSYCH 2RA3 and 2RB3 with STATS 2D03 and 2MB3. In this case, students are advised to take MATH 1503 or 1D03 in Level I and consult with a departmental advisor.

9. Students who completed PSYCH 3Q03 or 4Q03 prior to September 2007 may use this credit towards fulfilling the Level III lab requirement. Effective September 2007, PSYCH 3Q03 or 4Q03 will only fulfill this requirement if taken under the supervision of a faculty member in the Department of Psychology, Neuroscience and Behaviour.

10. Students who wish to do a Psychology thesis (PSYCH 4D06, 4D09) are advised to complete the lab requirement prior to doing a thesis. Effective September 2008, completing a psychology lab prior to doing a psychology thesis will become a requirement.

11. Students who registered in the program prior to September 2007 may use PSYCH 2D03 or 2F03 as a substitution for three units of Psychology Course List.

12. For Psychology Courses with limited enrolment which require permission by pre-registration ballot, the Psychology, Neuroscience and Behaviour Department pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D09, 4D16), and the individual study courses (PSYCH 2Q03, 3Q03, 3Q03, 4Q03, 4Q03). Students wishing to take these courses must complete and submit a ballot by mid-February. Students will be informed of the outcome of the first phase by mid-March. The second phase will include lab courses (PSYCH 3E03, 3L03, 3L03, 2M03, 3Q03, 4Q03, 4G03, 3F03). Students wishing to take these courses must complete and submit a ballot by mid-April. Specific dates will be announced during the Fall term. Ballots can be obtained from the Department of Psychology, Neuroscience and Behaviour web site at http://www.mcmaster.ca/psychology. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.

13. Students who entered the program prior to September 2007 may complete PSYCH 4D06 to satisfy the thesis requirement. For students entering the program effective September 2007, students who do not obtain the minimum Cumulative Average as stated in the prerequisite of one of BIOLOGY 4C09, 4F06 or PSYCH 4D03, 4D06 may request a waiver from the Undergraduate Associate Chair of the Department of Biology. Students denied permission may not continue in the program and may apply to transfer to Honours Biology or Honours Psychology and apply to graduate with a Minor in the alternate subject area.

14. Students who entered the program prior to September 2007 should refer to the 2006-2007 Undergraduate Calendar or their personal degree audit for program requirements.

PSYCHOLOGY LAB COURSE LIST
PSYCH 3BL3, 3EE3, 3L03, 3L03, 3M03, 3Q03, 3S03, 3V03, 4Q03 (All Psychology lab courses have limited enrolment. See Notes 9, 10 and 12 above.)

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS (SEE NOTE 14 ABOVE.)
18 units BIOCHEM 2EE3, BIOLOGY 2B03, 2C03, CHEM 2A03, 2B03
3 units PSYCH 2F03
3 units from PSYCH 2E03, 2T03
6 units PSYCH 2RA3, 2RB3 (See Notes 7 and 8 above.)
3 units Electives, which must include PSYCH 1AA3 if not completed

LEVEL III: 30 UNITS
3 units BIOCHEM 3G03
9 units from Biology Course List, which must include at least three units of Level II
6 units from Psychology Course List, which must include at least three units of Level III or IV (See Note 11 above.)
3 units Level III or IV courses from Biology Course List or Psychology Course List
3 units from Psychology Lab Course List (See Note 3 above.)
6 units Electives

LEVEL IV: 30 UNITS
24 units Level III or IV courses from Biology Course List or Psychology Course List, including at least nine units from Biology Course List and nine units from Psychology Course List. One of BIOLOGY 4C09, 4F06, PSYCH 4D09 or 4D06 must be included. (See Notes 12 and 13 above.)
6 units Electives

Honours Biology (Genetics Specialization Co-op) [2053]

ADMISSION
Enrolment in this program is limited. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of Level II of the Honours Biology Genetics Specialization program with a Cumulative Average of at least 7.0. Information about this program and the selection procedure can be obtained from Science Career and Cooperative Education.

NOTES
1. This is a five-level (year) co-op program, which includes one eight-month industry work term, and one four-month academic research work term that must be spent in Genetics related placements.
2. Students must be registered full-time and take a full academic workload.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. Students should seek academic counselling for this program in the Department of Biology.
5. Students in the Genetics Specialization are encouraged to take PHILOS 2D03 or 2G03 as an elective.
6. Students in the Genetics Specialization must take BIOLOGY 2B03, 2C03 and BIOCHEM 2E03 in Level II.
7. Students are strongly recommended to take BIOLOGY 2A03, 2F03.
8. Alternate arrangements for the BIOLOGY 4GG8 thesis will be considered by the Program Coordinator.
9. Students may complete the program in December of the year prior to Spring convocation.

GENETICS COURSE LIST
BIOCHEM 3G03, 4E03; BIOLOGY 3CC3, 3HH3, 3J03, 3M03, 3S03, 3Y03, 4B03, 4DD3, 4E03, 4EE3, 4K03, 4P03, 4PP3, 4V03; MOL BIOL 4H03
**Ho...{2050419}**

**Pharmacology (Co-op)**

**ADMISSION**

Enrolment in this program is limited. Selection is based on academic and other achievement (see below) but requires, as a minimum, completion of any Level II program with a Cumulative Average of at least 6.0 and completion of the following courses:

- 6 units BIOLOGY 2A03, 2C03
- 6 units CHEM 2OA3, 2OB3
- 3-6 units BIOCHEM 2EE3 or both BIOCHEM 2B03 and 2BB3
- 6 units from BIOLOGY 2B03, 2D03, 2EE3, 2F03, CHEM 2N03, 2R03

Information about this program and the selection procedure can be obtained from Science Career and Cooperative Education and the Program Director.

**NOTES**

1. This is a five-level (year) co-op program, three terms of which must be spent in work related to pharmacology, toxicology or pharmaceutics.
2. A senior thesis, PHARMAC 4F09, will be completed in Level IV, Summer Term. Work terms must be completed in Level IV, Term 2 and Level V, Term 1.
3. PHARMAC 3A06, 3B06, 4A03, 4AA3, 4C03, 4D03 and 4E03 will use a self-directed problem-based learning approach.
4. Students must be registered full-time and take a full academic workload as prescribed by Level and Term.
5. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
6. Students should seek academic counselling for this program in the Department of Biology.
7. BIOLOGY 1K03 should not be taken.
8. If BIOCHEM 2EE3 was taken, BIOCHEM 3G03 must be taken in Level III.

**COURSE LIST**

BIOCHEM 2B03, 2BB3, 3D03, 3G03, 3H03, 3N03; all Level III and IV Biology and Pharmacology courses except BIOLOGY 3Q03, 3Q03; CHEM 3F03, 3FF3, 4DD3; GEO 3J03, 4A03, 4B03; HTH SCI 3I03, 3K03, 4IL3; MOL BIOL 4H03, 4J03; PSYCH 2RB3

**REQUIREMENTS**

129 units total (Levels I to IV), of which no more than 48 units may be Level I.

**LEVEL I: 30 UNITS**

- 30 units Completed prior to admission to the program

**LEVEL II: 30 UNITS**

- 30 units Completion of Level II Honours Biology (Genetics Specialization)

**LEVEL III**

Consists of Academic Terms 1 and 2 (Fall/Winter) and completion of BIOLOGY 4XX3 and the first half of the first eight-month work term, Summer Term

**TERMS 1 AND 2 (FALL AND WINTER): 33 UNITS**

- 3 units from BIOLOGY 2EE3, 3E03
- 15 units BIOLOGY 3FF3, 3H03, 3I03, 3O03, 3V03
- 3 units from Genetics Course List
- 9 units Electives
- 1 course SCIENCE 2C00

**SUMMER**

- 3 units BIOLOGY 4XX3 (first two weeks of May)

**LEVEL IV**

Consists of completion of the second half of the first eight-month work term, Term 1 (Fall), Academic Term 2 (Winter) and Academic work term, Summer Term

**TERM 1 (FALL):**

- Work term

**TERM 2 (WINTER): 15 UNITS**

- 3 units BIOLOGY 4R03
- 6 units from Genetics Course List
- 6 units Electives

**SUMMER**

- Work Term (in an Academic Lab) and preparation for BIOLOGY 4GG9

**LEVEL V**

Consists of Academic Term 1 (Fall)

**TERM 1 (FALL): 12 UNITS**

- 9 units Completion of BIOLOGY 4GG9
- 3 units from Genetics Course List

**SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG**

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**FACULTY OF SCIENCE**

**REQUIREMENTS**

120 units total (Levels I to IV), of which no more than 48 units may be Level I
B.Sc. Three-Level Degree

A three-level program with a general Life Science orientation is available through the B.Sc. in Life Science. See Interdisciplinary Programs in this section of the calendar.

Minor in Biology

REQUIREMENTS
24 units total
6 units  BIOLOGY 1A03, 1A03
18 units  Levels II, III, IV Biology, including at least six units from Levels III, IV Biology

DEPARTMENT OF CHEMISTRY

WEB ADDRESS:  http://www.chemistry.mcmaster.ca

Honours Arts & Science and Chemistry  
(B.Arts.Sc.; See Arts & Science Program)

Honours Physical Science  
(See Interdisciplinary Programs)

NOTES APPLICABLE TO ALL HONOURS CHEMISTRY PROGRAMS

1. In addition to the Honours Chemistry program, the Department offers three specializations. The Honours program consists of a specified set of basic requirements and a wide choice of electives (including those from outside the Faculty of Science), allowing for interdisciplinary studies or the opportunity to complete a Minor in another subject. Alternatively, students may wish to complete one of the following specializations which are more appropriate for graduate studies in Chemistry or Biochemistry:
   - Biological Specialization
   - Physical and Analytical Specialization
   - Synthesis and Structure Specialization
   Honours Chemistry may also be combined with the Origins Research Specialization.

2. All options in Honours Chemistry fulfill the academic requirements of the Canadian Society for Chemistry.

3. For those considering postgraduate studies in Chemistry, it should be noted that 18 units of Level IV Chemistry or related subjects are required for consideration for admission at McMaster and most graduate schools in Canada. CHEM 4G09 is strongly recommended. The Department of Chemistry considers the Biological, Physical and Analytical, and Synthesis and Structure Specializations to be more appropriate for graduate studies in Chemistry.

4. Students may transfer to a specialization at any time, subject to satisfying its requirements.

5. Students in all Chemistry programs are expected to have basic skills in the use of personal computers, word processing software and spreadsheet software. COMP SCI 1SA3 is recommended for students without those skills.

6. Students are encouraged to seek academic counselling from the Undergraduate Advisor for Chemistry programs (email advisor@chemistry.mcmaster.ca).

7. Students who wish to transfer from Level II or III to an Honours Chemistry program must have a Cumulative Average of at least 6.0 and have successfully completed all courses required for admission to an Honours Chemistry program.

8. MATH 1B03 (or 1D03) and PHYSICS 1BA3 (or 1BB3) must be completed by the end of Level II and are strongly recommended in Level I.

Honours Chemistry  
{2070816}

NOTES
1. MATH 1B03 (or 1D03) must be completed by the end of Level II and is strongly recommended in Level I.

2. PHYSICS 1BA3 (or 1BB3) must be completed by the end of Level II and is very strongly recommended in Level I, as Physics laboratories are very difficult to schedule in the Level II program.

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units  CHEM 1A03, 1A03 with an average of at least 6.0
6 units  MATH 1A03, 1A03
3 units  PHYSICS 1B03
9 units  from Science I Course List

NOTES
1. MATH 2C03, PHYSICS 2A03 or 2B06 are recommended electives.

2. In some cases there are Level II and III prerequisites for Level III and Level IV courses. The prerequisites should be considered when choosing your Level II (III) courses.

3. Students must take BIOCHEM 3EE3 or 3G03; BIOCHEM 3G03 is recommended. Other Biochemistry courses that have Biology prerequisites are permitted; see the Biological Specialization below.

4. CHEM 3L13 and 4G09 are considered inquiry courses. If both courses are taken, it is recommended that CHEM 3L13 be taken prior to CHEM 4G09.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I and at least 36 units must be Level III, IV courses

LEVEL I
30 units  (See Admission above.)

LEVEL II: 30 UNITS
18 units  CHEM 2A03, 2A03, 2B03, 2I03, 2PA3, 2PB3
12 units  Electives, which must include MATH 1B03 (or 1D03) or PHYSICS 1BA3 (or 1BB3) if not completed in Level I

LEVEL III: 30 UNITS
18 units  CHEM 3A03, 3B03, 3D03, 3L13, 3P03, 3Q03
3 units  from BIOCHEM 3EE3, 3G03 (See Note 3 above.)
9 units  Electives

LEVEL IV: 30 UNITS
9 units  Level IV Chemistry
9 units  Levels III, IV courses from the Faculty of Science
12 units  Electives

Honours Chemistry  
{2070818}

(Biological Specialization)

NOTES
1. MATH 1B03 (or 1D03) must be completed by the end of Level II and is strongly recommended in Level I.

2. PHYSICS 1BA3 (or 1BB3) must be completed by the end of Level II and is very strongly recommended in Level I, as Physics laboratories are very difficult to schedule in the Level II program.

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units  CHEM 1A03, 1A03 with an average of at least 6.0
6 units  BIOLOGY 1A03, 1A03
6 units  MATH 1A03, 1A03
3 units  PHYSICS 1B03
6 units  from Science I Course List

NOTES
1. This specialization is recommended for students interested in pursuing the joint Biochemistry Chemistry graduate program at McMaster University.
2. A Minor in Biochemistry is not permitted in the Biological Chemistry Specialization.

3. Recommended electives for Levels III and IV include BIOCHEM 2803 and CHEM 3FF3.

4. Students with credit in BIOCHEM 4K03 may substitute it for BIOCHEM 4N03.

REQUIREMENTS
120 units total (Levels I to IV), of which more than 48 units may be Level I and at least 36 units must be Level III, IV courses.

**LEVEL I**
- 30 units (See Admission above.)

**LEVEL II:** 30 UNITS
- 18 units CHEM 2A03, 2B3A, 2BB3, 2103, 2PA3, 2PB3
- 3 units BIOLOGY 2B03
- 9 units Electives, which must include MATH 1B03 (or 1D03) or PHYSICS 1B03 (or 1BB3) if not completed in Level I.

**LEVEL III:** 30 UNITS
- 18 units CHEM 3A03, 3B3A, 3D03, 3L13, 3P03, 3Q03
- 3 units from BIOCHEM 2BB3, 3G03
- 3 units from BIOCHEM 2EE3, 3D03
- 3 units BIOLOGY 2C03
- 3 units Electives

**LEVEL IV:** 30 UNITS
- 15 units CHEM 4D03, 4D09, 4G09
- 3 units from BIOCHEM 4N03 (See Note 4 above.)
- 6 units Levels III, IV Biochemistry or Biology
- 6 units Electives

Honours Chemistry (2070822) (Physical and Analytical Specialization)

**ADMISSION**
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
- 6 units CHEM 1A03, 1AA3 with an average of at least 6.0
- 6 units MATH 1A03, 1AA3
- 3 units PHYSICS 1B03
- 9 units from Science I Course List

**NOTES**
1. CHEM 3BB3 and 3ZZ3 require completion of Level II Mathematics and Physics courses. Therefore, students are strongly recommended to take MATH 1B03 (or 1D03) and PHYSICS 1B03 (or 1BB3) in Level I and MATH 2A03 and PHYSICS 2A03 in Level II.

2. Recommended electives include MATH 2C03, STATS 2D03, 2M03.

**REQUIREMENTS**
120 units total (Levels I to IV), of which no more than 48 units may be Level I and at least 36 units must be Level III, IV courses.

**LEVEL I**
- 30 units (See Admission above.)

**LEVEL II:** 30 UNITS
- 18 units CHEM 2A03, 2B3A, 2BB3, 2103, 2PA3, 2PB3
- 6 units MATH 2A03, PHYSICS 2A03 (See Note 1 above.)
- 6 units Electives, which must include MATH 1B03 (or 1D03) or PHYSICS 1B03 (or 1BB3) if not completed in Level I (See Note 2 above.)

**LEVEL III:** 30 UNITS
- 24 units CHEM 3A03, 3B3A, 3BB3, 3D03, 3L13, 3P03, 3Q03, 3Z3
- 3 units from BIOCHEM 2EE3, 3G03
- 3 units Electives

**LEVEL IV:** 30 UNITS
- 6 units CHEM 4G09
- 6 units Levels III, IV Chemistry
- 15 units Electives

Honours Chemistry (2070824) (Synthesis and Structure Specialization)

**ADMISSION**
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
- 6 units CHEM 1A03, 1AA3 with an average of at least 6.0
- 6 units MATH 1A03, 1AA3
- 3 units PHYSICS 1B03
- 9 units from Science I Course List.

**NOTE**
Additional Biochemistry is recommended from either BIOCHEM 2E03, 3G03 or from BIOCHEM 2B03, 2B09 and 3D03. Note that the latter three courses have Biology prerequisites.

**REQUIREMENTS**
120 units total (Levels I to IV), of which no more than 48 units may be Level I and at least 36 units must be Level III, IV courses.

**LEVEL I**
- 30 units (See Admission above.)

**LEVEL II:** 30 UNITS
- 18 units CHEM 2A03, 2B3A, 2BB3, 2103, 2PA3, 2PB3
- 12 units Electives, which must include MATH 1B03 (or 1D03) or PHYSICS 1B03 (or 1BB3) if not completed in Level I (See Note above.)

**LEVEL III:** 30 UNITS
- 18 units CHEM 3A03, 3B3A, 3D03, 3L13, 3P03, 3Q03
- 6 units from CHEM 3I03, 3A03, 4C03, 4D03, 4D3, 4P3, 4R03, 4S03
- 3 units from BIOCHEM 2EE3, 3G03
- 3 units Electives

**LEVEL IV:** 30 UNITS
- 9 units CHEM 4G09
- 6 units Levels III, IV Chemistry
- 15 units Electives

**Honours Chemistry (Origins Research Specialization) (2070412)**

**NOTES**
1. MATH 1B03 (or 1D03) must be completed by the end of Level II and is strongly recommended in Level I.
2. PHYSICS 1B03 (or 1BB3) must be completed by the end of Level II and is very strongly recommended in Level I, as Physics laboratories are very difficult to schedule in the Level II program.

**ADMISSION**
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
- 6 units CHEM 1A03, 1AA3 with an average of at least 6.0
- 6 units BIOLOGY 1A03, 1AA3
- 6 units MATH 1A03, 1AA3
- 3 units PHYSICS 1B03
- 3 units from ASTRON 1F03, PHYSICS 1A03, 1BB3

**NOTES**
1. Completion of ORIGINS 2B03, 2FF3 and 2Z03 is required by the end of Level III.
2. In some cases there are Level II and III prerequisites for Level III and IV courses. The prerequisites should be considered when choosing your Level II and III courses.
3. Students must take BIOCHEM 2E03 or 3G03. BIOCHEM 3G03 is recommended. Other Biochemistry courses that have Biology prerequisites are permitted, see the Biological Specialization.
4. CHEM 3L13 and 4G09 are considered inquiry courses. If both courses are taken, it is recommended that CHEM 3L13 be taken prior to CHEM 4G09.

**REQUIREMENTS**
120 units total (Levels I to IV), of which no more than 48 units may be Level I and at least 36 units must be Level III, IV courses.

**ORIGINS COURSE LIST**
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

**LEVEL I**
- 30 units (See Admission above.)

**LEVEL II:** 30 UNITS
- 18 units CHEM 2A03, 2B3A, 2BB3, 2103, 2PA3, 2PB3
- 3 units from ORIGINS 2B03, 2FF3 (See Note 1 above.)
- 3 units ORIGINS 2S03
- 6 units Electives, which must include MATH 1B03 (or 1D03) or PHYSICS 1B03 (or 1BB3) if not completed in Level I.

**LEVEL III:** 30 UNITS
- 18 units CHEM 3A03, 3B3A, 3FF3, 3L13, 3P03, 3Q03
- 3 units from BIOCHEM 2EE3, 3G03 (See Note 3 above.)
- 3 units from ORIGINS 2B03, 2FF3
- 3 units from Origins Course List
- 3 units ORIGINS 3S03
LEVEL IV: 30 UNITS
9 units Level IV Chemistry
9 units Levels III, IV courses from the Faculty of Science
3 units from Origins Course List
9 units ORIGINS 4A09

Honours Chemistry Co-op {2073}

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of Level II Honours Chemistry with a Cumulative Average of at least 6.0.

Information about the program and the selection procedure may be obtained from Science Career and Cooperative Education.

NOTES
1. This is a five-level (year) co-op program which includes two eight-month work terms that must be spent in Chemistry-related placements.
2. Students must be registered full-time and take a full academic workload as prescribed by Level and by Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. There are Level II (and III) prerequisites for many Level III (and IV) courses. The prerequisites should be considered when choosing your Level II and III courses. Students should, in particular, note the Mathematics and Physics prerequisites for CHEM 3BB3 and 3ZZ3.
5. Students considering postgraduate studies in Chemistry should note that 18 units of Level IV Chemistry or related subjects are required for consideration for admission at McMaster and most graduate schools in Canada.
6. Students must take BIOCHEM 3EE3 or 3G03. BIOCHEM 3G03 is recommended. Other Biochemistry courses which have Biology prerequisites are permitted, see the Biological Specialization above.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I and at least 36 units must be Level III, IV courses

LEVEL I: 30 UNITS
Completed prior to admission to the program

LEVEL II: 30 UNITS
Completion of any Level II Honours Chemistry program

LEVEL III
Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term

TERM 1 (FALL): 15 UNITS
6 units CHEM 3B3, 3G03
9 units Electives
1 course SCIENCE 2C00

TERM 2 (WINTER) AND SUMMER
Work Term

LEVEL IV
Consists of Academic Term 1 (Fall), and Term 2 (Winter), and the first half of the second eight-month work term, Summer Term

TERM 1 AND 2 (FALL AND WINTER): 30 UNITS
12 units CHEM 3AA3, 3DD3, 3G03, 3PP3
6-9 units from CHEM 3BB3, 3L13, 3ZZ3, 4C03, 4D03, 4DD3, 4G09, 4PP3, 4R03, 4S03
9-12 units Electives

SUMMER
Work Term

LEVEL V
Consists of completion of the second half of the second eight-month work term, Term 1 (Fall) plus Academic Term 2 (Winter)

TERM 1 (FALL)
Work Term

TERM 2 (WINTER): 15 UNITS
3 units Levels III, IV Chemistry
3 units Level IV Chemistry
3 units from BIOCHEM 2EE3, 3G03 (See Note 6 above.)
9 units Electives

BSc. Three-Level Degree
A three-level program with a Chemistry orientation is available through the BSc. in Physical Science. See Interdisciplinary Programs in this section of the Calendar.

Minor in Chemistry
NOTE
Students who wish to pursue a Minor in Chemistry are encouraged to select courses in consultation with the Undergraduate Advisor in the Department of Chemistry.

REQUIREMENTS
24 units total
6 units from CHEM 1A03, 1AA3
18 units Level II, III, IV Chemistry courses, including at least six units from Levels III, IV Chemistry courses

DEPARTMENT OF COMPUTING AND SOFTWARE
WEB ADDRESS: http://www.cas.mcmaster.ca

Honours Arts & Science and Computer Science (B.A.Sc.; See Arts & Science Program).

Honours Computer Science (B.A.Sc.; See Faculty of Engineering, Honours Computer Science (B.A.Sc.))

Honours Economics and Computer Science (B.A.; See Faculty of Social Sciences, Department of Economics)

Honours Mathematics and Computer Science (See Department of Mathematics and Statistics)

Honours Mathematical Science (See Interdisciplinary Programs)

Honours Computer Science (B.Sc.) {2153}

NOTES
1. The Honours Bachelor of Science degree in Computer Science within the Faculty of Science is being phased out and replaced by a Bachelor of Applied Science degree. Registration in Level II of the current Honours Computer Science (B.Sc.) program will be last available in September 2007. Those students wishing to pursue the Honours Computer Science (B.A.Sc.) program should see Honours Computer Science (B.A.Sc.) in the Faculty of Engineering section of this calendar. Students who registered in a Computer Science program prior to September 2007 may see an Academic Advisor in the Office of the Associate Dean Science (Studies) for program requirements.
2. COMP SCI 4ZP6 is the Capstone course of the program.
ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units - a grade of at least C+ in each of COMP SCI 1MD3, 1FC3
6 units - MATH 1A03, 1AA3
3 units - from MATH 1B03, 1D03
9 units - from Science I Course List
NOTE
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units - a grade of at least C+ in two of ENVIR SC 1A03, 1B03, 1G03
3 units - CHEM 1A03
3 units - MATH 1A03
9 units - from MATH 1A03, 1B03, 1D03, STATS 1CC3
6 units - from BIOLOGY 1A03, 1AA3, CHEM 1AA3, PHYSICS 1B03, 1BA3

NOTES APPLICABLE TO ALL HONOURS
EARTH AND ENVIRONMENTAL SCIENCES PROGRAMS
Upon completion of Level II Honours Earth and Environmental Sciences, students may choose to register in one of three specializations:
- Geochmistry Specialization
- Geoecologies Specialization
- Hydrosciences Specialization
These specializations aim to fulfill the academic requirements for professional registration of Geoscientists in Ontario. Students are encouraged to consult with the academic advisor in the School of Geography and Earth Sciences during the March counselling period to ensure proper selection of courses for professional registration. The Honours Earth and Environmental Sciences program does not aim to fulfill professional registration requirements.

Honours Earth and Environmental Sciences (B.Sc.)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units - a grade of at least C+ in each of COMP SCI 1MD3, 1FC3
6 units - MATH 1A03, 1AA3
3 units - from MATH 1B03, 1D03
9 units - from Science I Course List

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units - (See Admission above.)

LEVEL II: 30 UNITS
21 units - from COMP SCI 2CA3, 2CS3, 2ME3, 2MF3, 2MJ3, 2D03, 2SC3
3 units - from STAT 2MA3
6 units - Electives

LEVEL III: 30 UNITS
24 units - from COMP SCI 3CN3, 3DA3, 3DB3, 3EA3, 3IS3, 3MH3, 3MI3, 3SR3
6 units - Electives

LEVEL IV: 30 UNITS
21 units - from COMP SCI 4CD3, 4HC3, 4MN3, 4TB3, 4WW3, 4ZP6
3 units - from COMP SCI 4AR3, 4TC3, 4TE3
6 units - Electives

Honours Computer Science
and Mathematics

Students interested in pursuing a program in Computer Science and Mathematics should see Honours Mathematics and Computer Science in the Department of Mathematics and Statistics section of this Calendar.

B.Sc. Three-Level Degree
A three-level program with a Computer Science orientation is available through the B.Sc. in Mathematical Science in Department of Mathematics and Statistics in this section of the Calendar.

Minor in Computer Science

NOTE
Students who are currently completing a Minor in Computer Science are advised to contact the Department of Computing and Software to discuss completion of the requirements for the Minor.

REQUIREMENTS
24 units total
6 units - COMP SCI 1MD3, 1FC3
12 units - from COMP SCI 2CA3, 2ME3, 2MF3, 2MJ3, 2D03, 2SC3
6 units - from COMP SCI 3CN3, 3DA3, 3EA3, 3MH3

SCHOOL OF GEOGRAPHY
AND EARTH SCIENCES

WEB ADDRESS: http://www.science.mcmaster.ca/geo/

Honours Arts & Science and Geography and Honours Arts & Science and Environmental Sciences
(B.Arts.Sc.; See Arts & Science Program)

Honours Geography (B.A.), B.A. in Geography and Honours Geography and Environmental Studies (B.A.)
(See B.A. programs, Faculty of Social Sciences, School of Geography and Earth Sciences)

NOTES
1. Students may elect one of the three specializations at the completion of Level II. Students who choose not to specialize will follow the requirements for Honours Earth and Environmental Sciences. If students choose to specialize, they follow the Level III and IV requirements listed under their appropriate specialization listing (see below). Students who choose not to specialize may not fulfill the academic requirements required for professional registration.
2. All students are strongly encouraged to meet with the academic advisor in the School of Geography and Earth Sciences to discuss program requirements and course selections.
3. There are Level III prerequisites for many Level IV courses. The prerequisites should be considered when selecting your courses.
4. The field components of GEO 3FE3 and 4FE3 are normally taken outside of term time. Details are announced in March.
5. A Minor in Geography, Earth Science or Environmental Science is not permitted in the Honours Earth and Environmental Sciences program. However, a Minor in Geographic Information Systems is permitted.
6. Both ENVIR SC 1A03 and 1G03 must be completed by the end of Level II and are recommended in Level I.

COURSE LIST 1
BIOLOGY 2D03, 2F03; CHEM 2A03, 2E03; GEO 2C03, 2G03, 2K03, 2KK3; one of ENVIR SC 1B03 or GEO 2A03

COURSE LIST 2
ASTRON 2E03; BIOLOGY 2F03, 3SS3, 3TT3; CHEM 2A03, 2E03; GEO 2B03, 2C03, 2K03, 2KK3, 3B03, 3C03, 3E03, 3I03, 3J03, 3L03, 3O03, 3P03, 3Q03, 3U03, 3V03, 3W03, 3Z03, 4B03, 4C03, 4E03, 4FF3, 4G03, 4HH3, 4J03, 4K03, 4O03, 4Q03, 4T03, 4W03, 4WW3, 4Z03, 4Z23

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units - (See Admission above.)

LEVEL II: 30 UNITS
3 units - from Course List 1
9 units - Electives (See Note 6 above.)
LEVEL III: 30 UNITS
(See below for the Level III requirements for Specializations)
3 units GEO 3FE3
6 units GEO 3RO3, 3Y03
6 units from Course List 2
15 units Electives

LEVEL IV: 30 UNITS
(See below for the Level IV requirements for Specializations)
3 units GEO 4A03
3-6 units from GEO 4CC3, 4R06
9 units from Course List 2
12-15 units Electives

Honours Earth and Environmental Sciences
(geochemistry Specialization)

ADMISSION
Completion of Level II Honours Earth and Environmental Sciences.

Geochemistry Course List 1: BIOLOGY 2F03; GEO 2B03, 2C03, 3B03, 3J03, 3L03, 3Q03, 3R03, 4A03, 4B03, 4CC3, 4R06
Geosciences Course List 1: ASTRON 2E03, BIOLOGY 2F03, 3SS3, 3TT3, CHEM 2A03, 2E03, ONE LEVEL III CHEMISTRY COURSE; GEO 2B03, 2C03, 2K03, 3B03, 3J03, 3L03, 3Q03, 3R03, 3W03, 4A03, 4FE3, 4FF3, 4G03, 4HH3, 4J03, 4Q03, 4Z03

LEVEL III: 30 UNITS
3 units GEO 3FE3
6 units GEO 3R03, 3Y03
6 units from Geochemistry Course List 1
9 units from Geoscience Course List 1
6 units Electives

LEVEL IV: 30 UNITS
3 units GEO 4A03
3-6 units from GEO 4CC3, 4R06
9 units from Geoscience Course List 1
6-9 units from Geoscience Course List 2
6 units Electives

Honours Geoscience

FORMERLY HONOURS SCIENCE (GEOSCIENCE)
(Includes Environmental Science, Geography and Earth Sciences)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 5.0 including:

6 units from ENVIR SC 1A03, 1B03, 1G03 with an average of at least 6.0
3 units from MATH 1A03, 1B03, 1G03
12 units from Science I Course List (See Note below.)

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 6.0 including completion of all courses with minimum averages as listed above.

NOTES
1. ENVIR SC 1A03, 1B03, 1G03 must be completed by the end of Level II.
2. For students who entered the program in September 2007 or prior, at each academic review after completion of Level I, a Minimum of at least 6.0 is required to continue in the Honours Geoscience program.

GEOSCIENCE COURSE LIST
All Level II, III and IV Geocourses except GEO 2GG3, 2MM3, 2WW3, 3AA3, 3CC3, 3DD3, 3NN3, 3RR3 and non-science Geo courses. Non-science Geo courses contain the letter H in the course code.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units from Level II courses from Geoscience Course List
6 units from Faculty of Science courses excluding the Geoscience Course List
12 units Electives (See Note 1 above.)

LEVEL III: 30 UNITS
12 units Levels III, IV courses from Geoscience Course List
3 units from Faculty of Science courses excluding the Geoscience Course List
15 units Electives

LEVEL IV: 30 UNITS
18 units Levels II, III, IV courses from Geoscience Course List of which at least 12 units must be Levels III, IV
6 units from Faculty of Science courses excluding the Geoscience Course List
6 units Electives

Honours Earth and Environmental Sciences Co-op (B.Sc.) Program

The Honours Earth and Environmental Sciences Co-op program is being phased out. Registration in Level III will be last available in September 2007.
Honours Earth and Environmental Sciences
(Geoscience Specialization Co-op)

The Honours Earth and Environmental Sciences (Geoscience Specialization Co-op) program is being phased out. Registration in Level III will be last available in September 2007.

Geosciences Course List 1: GEO 2B03, 2C03, 3R03, 3E03, 3Q03, 3W03, 3Z03
Geosciences Course List 2: ASTRON 2E03, BIOLOGY 2F03, 2S03, 3T03, 3U03, 3V03, 3W03, 3Z03, 3A03, 4B03, 4F03, 4G03, 4H03, 4J03, 4K03, 4Q03, 4R03
Geosciences Course List 3: CHEM 2A03, 2B03, 2C03, 3T03, 3U03, 3V03, 3W03, 3Z03, 3A03, 3B03, 3C03, 3D03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03, 4V03, 4W03, 4X03, 4Y03, 4Z03

LEVEL III
6 units from Geosciences Course List 1
LEVEL IV
6 units from Geosciences Course List 1
6-9 units from Geosciences Course List 2
LEVEL V
3 units from Geosciences Course List 1
9 units from Geosciences Course List 2

Honours Earth and Environmental Sciences
(Hydrosciences Specialization Co-op)

The Honours Earth and Environmental Sciences (Hydrosciences Specialization Co-op) program is being phased out. Registration in Level III will be last available in September 2007.

Hydrosciences Course List 1: GEO 2B03, 2C03, 2D03, 3R03, 3Q03, 3W03, 3Z03
Hydrosciences Course List 2: ASTRON 2E03, GEO 2B03, 2C03, 2K03, 3T03, 3U03, 3V03, 3W03, 3Z03, 3A03, 3B03, 3C03, 3D03, 4L03, 4M03, 4N03, 4O03, 4P03, 4Q03, 4R03, 4S03, 4T03, 4U03, 4V03, 4W03, 4X03, 4Y03, 4Z03

LEVEL III
6 units from Hydrosciences Course List 1
LEVEL IV
6 units from Hydrosciences Course List 1
6-9 units from Hydrosciences Course List 2
LEVEL V
3 units from Hydrosciences Course List 1
9 units from Hydrosciences Course List 2

Honours Earth and Environmental Sciences
(General Education Co-op)

The Honours Earth and Environmental Sciences (General Education Co-op) program is being phased out. Registration in Level III will be last available in September 2007.

Consists of completion of the second half of the second eight-month work term, Term 1 (Fall) and Academic Term 2 (Winter)
**FACULTY OF SCIENCE**

**B.Sc. in Geoscience**

**(1149)**

*(Includes Environmental Science, Geography and Earth Sciences)*

**ADMISSION**

2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 3.5 including:

- 6 units from ENVIR SC 1A03, 1B03, 1G03
- 3 units from MATH 1A03
- 3 units from MATH 1A33, 1B03, 1D03, STATS 1CC3

12 units from Science I Course List with an average of at least 4.0 in two courses

**EFFECTIVE 2008-2009:** Completion of any Level I program with a Cumulative Average of at least 3.5 including:

- 6 units from ENVIR SC 1A03, 1B03, 1G03 with an average of at least 4.0
- 3 units from MATH 1A03
- 3 units from MATH 1A33, 1B03, 1D03, STATS 1CC3

12 units from Science I Course List

**NOTES**

1. There are Level II prerequisites for many Level III courses; these should be considered when choosing Level II courses. As an aid to choosing a coherent set of courses in a single discipline, students should consult the required specialist option courses in the Honours Earth and Environmental Sciences program.

2. Students should seek academic counselling from the School of Geography and Earth Sciences to ensure that their choices are appropriate.

**GEOSCIENCE COURSE LIST**

All Level II and III Geo courses (except GEO 2G3, 2MM3, 2WWW3, 3A93, 3CC3, 3DD3, 3NN3, 3RR3 and non-science Geo courses (Non-science Geo courses contain the letter H in the course code.)

**REQUIREMENTS**

90 units total (Levels I to III), of which no more than 42 units may be Level I

**LEVEL I**

30 units (See Admission above.)

**LEVEL II: 30 UNITS**

12 units from Level II courses from Geoscience Course List

6 units from Faculty of Science courses

12 units Electives

**LEVEL III: 30 UNITS**

12 units from Levels III, IV courses from Geoscience Course List

3 units from Faculty of Science courses

15 units Electives

**Minor in Geography**

Please see Minor in Geography in the School of Geography and Earth Sciences in the Faculty of Social Sciences section of this Calendar.

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**Minor in Earth Science**

**REQUIREMENTS**

24 units total

3 units from ENVIR SC 1G03

3 units from ENVIR SC 1A03, 1B03

18 units from GEO 2E03, 2K03, 2KK3, 2P03, 3D03, 3E03, 3FG3, 3K03, 3P03, 3Q03, 3V03, 3Z03, 3ZZ3, 4E03, 4FF3, 4K03, 4KK3, 4P03, 4Q03, 4T03, 4X03, 4Z03, 4ZZ3, including at least six units from Levels III, IV GEO courses

**Minor in Environmental Science**

**REQUIREMENTS**

24 units total

6 units from ENVIR SC 1A03, 1B03, 1G03

18 units from BIOLOGY 2F03, 3R03, 3SS3, 3TT3, 4J03, 4Y03, CHEM 2A03, 2E03, 2R03, GEO 2A03, 2B03, 2C03, 2E03, 2G03, 2Q03, 2W03, 3A03, 3B03, 3C03, 3J03, 3Q03, 3U03, 3V03, 3W03, 4A03, 4B03, 4C03, 4G03, 4J03, 4Q03, 4W03, 4WWW3, including at least six units from Levels III, IV GEO courses and at least three units from Levels II, III, IV Biology or Chemistry courses

**Minor in Geographic Information Systems (GIS)**

**REQUIREMENTS**

24 units total

6 units from ENVIR SC 1A03, 1B03, 1G03

18 units from GEO 2D03, 3K03, 3S03, 3TT3, 3V03, 4I03, 4S03

**Certificate in G.I.S.**

*(Geographic Information Systems)*

For further information see the Certificate and Diploma Programs section of this Calendar.

**DEPARTMENT OF KINESIOLOGY**

**WEB ADDRESS:** www.mcmaster.ca/kinesiology

**Honours Bachelor of Kinesiology (B.Kin.)**

*(See Faculty of Social Sciences, Department of Kinesiology)*

**NOTE**

Currently all students admitted to Kinesiology I register in the Faculty of Social Sciences. (See Department of Kinesiology in Faculty of Social Sciences section of this Calendar.) Beginning September 2008, the Faculty of Science will offer an Honours Bachelor of Science Kinesiology degree. As a result, students admitted to Honours Kinesiology I will register in the Faculty of Science. This program will replace the existing Honours Bachelor of Science (Hons. B.Sc.) degree option currently offered by Kinesiology students registered in the Faculty of Science. The Department of Kinesiology will continue to offer an Honours Bachelor of Kinesiology as a program option beyond Level I. For further information and program requirements, see Department of Kinesiology in the Faculty of Social Sciences section of this Calendar. The Honours Bachelor of Kinesiology, the Honours Bachelor of Science and the proposed Honours Bachelor of Science Kinesiology programs provide students the opportunity to complete courses required for various professional degree programs. Students are strongly encouraged to seek advice in determining which program option is best suited for them.

Only those students who have completed Kinesiology I may be eligible for the Honours Kinesiology (B.Sc.) program.

**Honours Kinesiology (B.Sc.)**

**(2671)**

This program is being phased out and admission to Level II will be last available in 2007. The program will be replaced by the Honours Kinesiology (B.Sc.Kin.) degree program as outlined above.

**ADMISSION**

2007-2008 ONLY: Completion of Kinesiology I with a Cumulative Average of at least 6.0 including an average of at least 6.0 in KINESIOL 1A06, 1E03, 1H03 and successful completion of one of MATH 1A03, 1B03, 1D03; and STATS 1CC3 (See Note 2 below).
NOTES
1. B.Sc. Kinesiology students must complete at least 12 units of electives selected from the Faculty of Science. These units may be completed in any Level but may not include Geo courses which contain the letter H in the course code or PSYCH 2AA3, 2B03, 2C03, 2I03, 2S03, 3PP3, 3SS3.
2. KINESIOL 3C03 may substitute for STATS 1CC3, however, three additional units from the Faculty of Science must be completed.

COURSE LIST
KINESIOL 3A03, 3B03, 3C03, 3D03, 3E03, 3K03, 3N03, 3Y03, 4A06, 4B03, 4B03, 4C03, 4CC3, 4EE3, 4F03, 4FF3, 4GG3, 4I03, 4J03, 4K03, 4KK3, 4M03, 4N03, 4O03, 4R03, 4RR6, 4S03, 4SS3, 4V03, 4X06

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS (2007-2008 ONLY)
15 units KINESIOL 2A03, 2C06, 2G03, 2H03
15 units Electives (See Note 1 above.)

LEVEL II: 30 UNITS (EFFECTIVE 2008-2009)
18 units KINESIOL 2A03, 2C03, 2CC3, 2E03, 2F03, 2G03
12 units Electives (See Note 1 above.)

LEVELS III AND IV: 60 UNITS
30 units Levels III, IV Kinesiology, including at least 18 units from Course List (See Note 2 above.)
30 units Electives (See Note 1 above.)

Honours Kinesiology (B.Sc.Kinesiology) {2672}
(Effective 2008-2009)

ADMISSION
2008-2009 ONLY: Completion of Kinesiology I with a Cumulative Average of at least 6.0 including an average of at least 6.0 in KINESIOL 1A03, 1AA3, 1B03, 1C03, 1D03, 1E03, 1F03, 1G03 and successful completion of one of MATH 1A03, 1B03, 1D03; and STATS 1CC3 (See Note 2 below).

EFFECTIVE 2009-2010: Completion of Honours Kinesiology I with a Cumulative Average of at least 6.0 including an average of at least 6.0 in KINESIOL 1A03, 1AA3, 1B03, 1C03, 1D03, 1F03, 1G03 and successful completion of one of MATH 1A03, 1B03 or 1L53.

NOTES
1. Honours B.Sc.Kinesiology students must complete at least six units of electives chosen from the Faculty of Science. These units may be completed in any level of studies but may not include Geo courses which contain the letter H in the course code or PSYCH 2AA3, 2B03, 2C03, 2I03, 2S03, 3PP3, 3SS3.
2. KINESIOL 3C03 may substitute for STATS 1CC3. However, three additional units from the Faculty of Science must be completed.

COURSE LIST
KINESIOL 3A03, 3B03, 3D03, 3E03, 3K03, 3N03, 3Y03, 4A06, 4C03, 4H03, 4I03, 4J03, 4K03, 4KK3, 4M03, 4N03, 4O03, 4R03, 4RR6, 4S03, 4SS3, 4V03, 4X06

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
18 units KINESIOL 2A03, 2C03, 2CC3, 2E03, 2F03, 2G03
12 units Electives (See Note above.)

LEVELS III AND IV: 60 UNITS
33 units Levels III, IV Kinesiology, including at least nine units of Level IV and at least 27 units from Course List
3 units KINESIOL 3C03
24 units Electives, which must include six units from the Faculty of Science if not completed in Level I or II

Honours Physical Science
(See Interdisciplinary Programs)

Honours Materials Science
(Computational Materials Science Specialization)

The Honours Materials Science (Computational Materials Science Specialization) has been cancelled. Students who intended to register in this program should contact the Office of the Associate Dean Science (Studies) to discuss an alternate choice.

Honours Materials Science
(Computational Materials Properties and Processing Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units MATH 1A03
3 units MATH 1A03 with a grade of at least C+
3 units from MATH 1B03, 1D03 with a grade of at least C+
3 units PHYSICS 1B03
6 units a grade of at least C+ in both CHEM 1A03, 1AA3
6 units from Science I Course List

MATERIALS PROPERTIES AND PROCESSING COURSE LIST
CHEM ENG 3004; CHEM 3Q03; ENGINEER 4J03; ENG PHYS 3E03, 3P03, 4F03; all Level III and IV Materials courses; MECH ENG 3004; PHYSICS 3M33, 4K03

REQUIREMENTS
120 -121 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
5 units CHEM 2E03, 2WW2
6 units MATH 2A03, 2C03
13 units MATLS 2B03, 2D03, 2H04, 2X03
6 units PHYSICS 2B06

LEVEL III: 31 UNITS
4 units CHEM ENG 2A04
15 units MATLS 3C04, 3E04, 3M03, 3T04
3 units MATH 3I03
6 units from Materials Properties and Processing Course List

LEVEL IV: 29-30 UNITS
8 units MATLS 4A02, 4K04, 4L02
15-16 units from Materials Properties and Processing Course List

6 units Electives.
Honours Materials Science (Nanomaterials Specialization) {2523}

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units MATH 1A03
3 units MATH 1A03 with a grade of at least C+
3 units from MATH 1B03, 1D03 with a grade of at least C+
(See Note 2 above.)
6 units a grade of at least C+ in both CHEM 1A03, 1AA3
3 units PHYSICS 1B03
3 units PHYSICS 1A03 or 1BB3
3 units MATLS 1M03
6 units from Science I Course List (See Note 2 above.)

NANOMATERIALS COURSE LIST
CHEM ENG 4Z03; CHEM 3Z23, 4F03; ENG PHYS 3F03, 3G03, 4E03, 4F03, 4S04; all Level III and IV Materials courses; PHYSICS 3M3M, 3N03, 3S03

REQUIREMENTS
119-121 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Note 2 and Admission above.)

LEVEL II: 30 UNITS
5 units CHEM 2E03, 2VW2
6 units MATH 2A03, 2C03
13 units MATLS 2503, 2D03, 2H04, 2X03
6 units PHYSICS 2B05

LEVEL III: 23-30 UNITS
11 units MATLS 3E04, 3Q03, 3T04
3 units CHEM ENG 3Q03
6 units MATH 2R03, 3I03
3 units ENG PHYS 2QM3
6-7 units from Nanomaterials Course List. MATLS 3C04 is recommended.

LEVEL IV: 30-31 UNITS
7 units MATLS 4F03, 4K04
3 units from MATLS 4G03, 4H03
4 units MATLS 3I04
16-17 units from Nanomaterials Course List (MATLS 4R03 is recommended if offered.)

B.Sc. Three-Level Degree
A three-level program with a Materials Science orientation is available through the B.Sc. in Physical Science. See Interdisciplinary Programs in this section of the Calendar.

Minor in Materials Processing
NOTES
1. In order to meet prerequisite requirements, at least six units of appropriate Level II Mathematics must be taken.
2. Students currently working towards a Minor in Materials Processing may follow the requirements as outlined in the 2003-2004 Undergraduate Calendar.

REQUIREMENTS
24 units total
3 units from ENGINEER 2003, MATLS 1M03
4 units CHEM ENG 2A04
17 units from MATLS 2B03, 2D03, 3B03, 3E04, 3F03, 4C03, 4H03

Minor in Materials Properties
NOTES
1. In order to meet prerequisite requirements, at least six units of appropriate Level II Mathematics must be taken.
2. Students currently working towards a Minor in Materials Properties may follow the requirements as outlined in the 2003-2004 Undergraduate Calendar.

REQUIREMENTS
24 units total
3 units from ENGINEER 2003, MATLS 1M03
4 units CHEM ENG 2A04
17 units MATLS 2B03, 2D03, 2X03, 3C04, 3T04

DEPARTMENT OF MATHEMATICS AND STATISTICS
WEB ADDRESS: http://www.math.mcmaster.ca

Honours Arts & Science and Mathematics (B.Ars.Sc.; See Arts & Science Program)

Honours Biology and Mathematics
(See Department of Biology)

Honours Economics and Mathematics
(B.A.; See Faculty of Social Sciences, Department of Economics)

Honours Philosophy and Mathematics
(B.A.; See Faculty of Humanities, Department of Philosophy)

NOTES APPLICABLE TO ALL HONOURS

MATHEMATICS AND STATISTICS PROGRAMS
1. In addition to the Honours Mathematics and Statistics programs, the Department offers three specializations. The Honours program consists of a specified set of basic requirements and allows a wide choice of electives (including those from outside the Faculty of Science) allowing for interdisciplinary studies or the opportunity to complete a Minor in another subject. Alternatively, students may choose one of the following specializations which are more appropriate for graduate studies in Mathematics or Statistics:
   • Applied Mathematics Specialization
   • Mathematics Specialization
   • Statistics Specialization

Honours Mathematics and Statistics may also be combined with the Origins Research Specialization.

2. The Mathematics and Statistics Department recommends the Mathematics Specialization or Applied Mathematics Specialization to students considering graduate studies in Mathematics and recommends the Statistics Specialization to students considering graduate studies in Statistics.

3. Students who successfully complete the first three Levels of any Honours B.Sc. degree may request permission from the Office of the Associate Dean of Science (Studies) for transfer to graduate with a three-level B.Sc. Science degree.

4. MATH 1D03 is a prerequisite for MATH 1BO3 for students who have not completed Grade 12 Geometry and Discrete Mathematics U.

5. A Cooperative Education program is available; see the requirements for Honours Mathematics and Statistics Co-op programs in this section of the Calendar. Admission to the co-op program is in Level III.

6. Joint Honours programs are available with Arts & Science, Biology, Computer Science, Economics, Philosophy and Physics.

Honours Mathematics and Statistics {2320832}

NOTES
1. In order to meet prerequisite requirements, at least six units of appropriate Level II Mathematics must be taken.
2. Students currently working towards a Minor in Materials Processing may follow the requirements as outlined in the 2003-2004 Undergraduate Calendar.

REQUIREMENTS
24 units total
3 units from ENGINEER 2003, MATLS 1M03
4 units CHEM ENG 2A04
17 units from MATLS 2B03, 2D03, 3B03, 3E04, 3F03, 4C03, 4H03

Minor in Materials Properties
NOTES
1. In order to meet prerequisite requirements, at least six units of appropriate Level II Mathematics must be taken.
2. Students currently working towards a Minor in Materials Properties may follow the requirements as outlined in the 2003-2004 Undergraduate Calendar.

REQUIREMENTS
24 units total
3 units from ENGINEER 2003, MATLS 1M03
4 units CHEM ENG 2A04
17 units MATLS 2B03, 2D03, 2X03, 3C04, 3T04
LEVEL III: 30 UNITS
6 units MATH 3A03, 3X03
3 units Levels III, IV Mathematics or Statistics
6 units from Course List
15 units Electives

LEVEL IV: 30 UNITS
15 units Levels III, IV Mathematics or Statistics
3 units from MATH 3GP3, 3TP3, 3Z03
12 units Electives

Honours Mathematics and Statistics (2320838) (Applied Mathematics Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1AA3, 1XX3 with a grade of at least C+
3 units MATH 1B03

NOTES
1. Students registered in the Applied Mathematics Specialization may substitute certain courses offered by the Faculty of Engineering and the Department of Physics and Astronomy for up to 12 units of the Level III and IV Mathematics and Statistics course requirements, subject to approval by the Department of Mathematics and Statistics. Please consult with an advisor in the Department of Mathematics and Statistics for further information.
2. MATH 1C03, although not required, is strongly recommended, if not completed in Level I.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units MATH 2C03, 2R03, 2X03, 2XX3
3 units STATS 2D03
3 units from MATH 2S03, 2T03
12 units Electives (MATH 2E03 is recommended.) (See Note 2 above.)

LEVEL III: 30 UNITS
6 units MATH 3A03, 3X03
6 units from MATH 3F03, 3FF3, 3Q03
9 units Levels II, III, IV Mathematics or Statistics, of which at least three units must be Level III or IV
9 units Electives

LEVEL IV: 30 UNITS
3 units MATH 4A03
3 units from MATH 4G03, 4Q03, 4V03, 4X03
15 units Levels II, III, IV Mathematics or Statistics
9 units Electives

Honours Mathematics and Statistics (2320834) (Mathematics Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1AA3, 1XX3 with a grade of at least C+
3 units MATH 1B03

NOTE
MATH 1C03, although not required, is strongly recommended, if not completed in Level I.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
15 units MATH 2C03, 2R03, 2S03, 2X03, 2XX3
3 units STATS 2D03
12 units Electives (See Note above.)

LEVEL III: 30 UNITS
6 units MATH 3A03, 3X03
6 units MATH 3E03, 3EE3
9 units Levels II, III, IV Mathematics or Statistics, of which at least three units must be Level III or IV
9 units Electives

LEVEL IV: 30 UNITS
3 units MATH 4A03
3 units from MATH 4B03, 4E03, 4G03, 4X03
15 units Levels III, IV Mathematics or Statistics
9 units Electives

Honours Mathematics and Statistics (2320412) (Origins Research Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1AA3, 1XX3 with a grade of at least C+
3 units MATH 1B03 with a grade of at least C+
6 units BIOLOGY 1A03, 1AA3
3 units PHYSICS 1B03
3 units from ASTRON 1F03, PHYSICS 1BA3, 1BB3
6 units CHEM 1A03, ENVIR SC 1G03

NOTE
MATH 1C03, although not required, is strongly recommended, if not completed in Level I.

MATHEMATICS AND STATISTICS COURSE LIST
MATH 2E03, 2S03, 2T03, 2B03, 3F03, 3FF3, 3G03, 3T03; STATS 2MB3, 3D03, 3DD3, 3S03, 3U03

ORIGINS COURSE LIST
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units MATH 2C03, 2R03, 2X03, 2XX3
3 units STATS 2D03
3 units from ORIGINS 2B03, 2FF3
3 units ORIGINS 2S03
9 units Electives (See Note above.)

LEVEL III: 30 UNITS
6 units MATH 3A03, 3X03
8 units Levels II, III, IV Mathematics or Statistics
6 units from Mathematics and Statistics Course List
3 units from ORIGINS 2B03, 2FF3 (whichever not completed)
3 units ORIGINS 3S03
6 units from Origins Course List
3 units Electives

LEVEL IV: 30 UNITS
3 units Levels III, IV Mathematics or Statistics
3 units from MATH 3GP3, 3TP3, 3Z03
9 units ORIGINS 4A09
6 units Electives

Honours Mathematics and Statistics (2320836) (Statistics Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1AA3, 1XX3 with a grade of at least C+
3 units MATH 1B03

NOTE
MATH 1C03, although not required, is strongly recommended, if not completed in Level I.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I
LEVEL I
30 units (See Admission above.)
LEVEL II: 30 UNITS
3 units
STATS 2MB3
12 units
MATH 2C03, 2R03, 2X03, 2XX3
3 units
STATS 2D03
12 units
Electives (See Note above.)

LEVEL III: 30 UNITS
6 units
MATH 3A03, 3X03
9 units
STATS 3A03, 3D03, 3DD3
9 units
Levels II, III, IV Mathematics or Statistics, of which at
least three units must be Level III or IV
6 units
Electives

LEVEL IV: 30 UNITS
6 units
Level IV Statistics
15 units
Levels III, IV Mathematics or Statistics
9 units
Electives

Honours Mathematics and Computer Science

ADMISSION
Completion of any Level I program with a Cumulative Average
of at least 6.0 including:
3 units
from MATH 1A03, 1X03
3 units
from MATH 1AA3, 1XX3 with a grade of at least C+
3 units
MATH 1B03 with a grade of at least C+
3 units
COMP SCI 1MD3 with a grade of at least C+

NOTE:
MATH 1C03, although not required, is strongly recommended.
If not completed in Level I.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may
be Level I

LEVEL I
30 units
(See Admission above.)

LEVEL II: 30 UNITS
9 units
MATH 2R03, 2X03, 2XX3
3 units
from MATH 2C03, STATS 2D03
6 units
COMP SCI 2M03, 2C03
6 units
COMP SCI 2CA3 and 2MF3; or COMP SCI 2ME3 and 2003
6 units
Electives (See Note above.)

LEVEL III: 30 UNITS
6 units
MATH 3A03, 3X03
6 units
Levels II, III, IV Mathematics or Statistics
6 units
COMP SCI 3DA3, 3M3; or COMP SCI 3DB3, 3MH3; or
COMP SCI 3EA3, 3SR3
6 units
Levels II, III Computer Science
6 units
Electives

LEVEL IV: 30 UNITS
12 units
Levels III, IV Mathematics or Statistics, of which at
least three units must be Level IV
3 units
from COMP SCI 4AR3, 4CD3, 4TB3
9 units
Levels III, IV Computer Science
6 units
Electives

Honours Mathematics and Physics {2320440}

ADMISSION
Completion of any Level I program with a Cumulative Average
of at least 6.0 including:
3 units
from MATH 1A03, 1X03
3 units
from MATH 1AA3, 1XX3 with a grade of at least C+
3 units
MATH 1B03 with a grade of at least C+
3 units
PHYSICS 1B03 with a grade of at least C+
3 units
from PHYSICS 1B3, 1BB3 with a grade of at least C+
3 units
from Science | Course List

NOTES
1. PHYSICS 3A03 and 3C03 are listed in Level III but are offered
in alternate years and may be taken in Level IV.
2. A Minor in Astronomy or Statistics is not permitted in the Hon-
ours Mathematics and Physics program.
3. MATH 1C03, although not required, is strongly recommended.
   if not completed in Level I.

COURSE LIST
All Level III and IV Astronomy courses; COMP SCI 2SC3; MATH
2E03; STATS 2D03, 2MB3; all Level III and IV Mathematics and
Statistics courses; all Level III and IV Physics courses except
PHYSICS 3T03, 4R06

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may
be Level I

LEVEL I
30 units
(See Admission above.)

LEVEL II: 30 UNITS
12 units
MATH 2C03, 2R03, 2X03, 2XX3.
12 units
PHYSICS 2B06, 2C03, 2E03
6 units
Electives See Note 3 above.

LEVEL III: 30 UNITS
6 units
MATH 3A03, 3X03
6 units
Level II, III, IV Mathematics or Statistics
3 units
from PHYSICS 3A03, 3C03
6 units
PHYSICS 3K03, 3MM3
3 units
Levels III, IV Physics or Astronomy
6 units
Electives

LEVEL IV: 30 UNITS (2007-2008 ONLY)
6 units
MATH 4A03, 4X03
3 units
PHYSICS 4B03
15 units
from Course List
6 units
Electives

LEVEL IV: 30 UNITS (EFFECTIVE 2008-2009)
12 units
Levels III, IV Mathematics or Statistics, with at least
three units from Level IV
3 units
PHYSICS 4C03
9 units
Levels III, IV Physics or Astronomy, including PHYS-
ICS 4L03 or 4P06
6 units
Electives

Honours Mathematical Science {2515}

FORMERLY HONOURS SCIENCE (MATHEMATICAL SCIENCE)
(includes Mathematics and Statistics and Computer Science)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a
Cumulative Average of at least 5.0 including:
3 units
from MATH 1A03, 1X03
3 units
from MATH 1AA3, 1XX3
3 units
from COMP SCI 1FC3, 1MD3, MATH 1B03 or 1D03
6 units
from MATH 1C03 or the Science I Course List
A grade of at least C+ is required in one of COMP SCI 1FC3,
1MD3, MATH 1AA3, 1B03, 1XX3, or three units from the Science I
Course List.

EFFECTIVE 2008-2009: Completion of any Level I program with
a Cumulative Average of at least 6.0 including:
3 units
from MATH 1A03, 1X03
3 units
from MATH 1AA3, 1XX3 with a grade of at least C+
3 units
one of COMP SCI 1FC3, 1MD3, MATH 1B03 with a grade of at least C+
3 units
from MATH 1C03 or the Science I Course List.
A grade of at least C+ is required in one of COMP SCI 1FC3,
1MD3, MATH 1AA3, 1B03, 1XX3, or three units from the Science I
Course List.

NOTES
1. Students should be aware that MATH 1B03, in addition to MATH
1D03, may be a prerequisite for upper level Computer Sci-
ence and Mathematics courses.
2. Admission to Honours Mathematical Science does not guar-
antee registration in all courses. Students should read course
descriptions and prerequisites carefully.
3. For students who entered the program in September 2007 or
prior, at each academic review after completion of Level I, a
Cumulative Average of at least 6.0 is required to continue in the
Honours Mathematical Science program.

MATHEMATICAL SCIENCE COURSE LIST
All Levels II, III, IV Computer Science, Mathematics or Statistics
courses

FACTOR OF SCIENCE
123
LEVEL 1
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units Level II courses from Mathematical Science Course List
6 units from Faculty of Science courses excluding the Mathematical Science Course List
12 units Electives

LEVEL III: 30 UNITS
12 units Levels III, IV courses from Mathematical Science Course List
3 units from Faculty of Science courses excluding the Mathematical Science Course List
15 units Electives

LEVEL IV: 30 UNITS
18 units Levels II, III, IV courses from Mathematical Science Course List of which at least 12 units must be Levels II, IV
6 units from Faculty of Science courses excluding the Mathematical Science Course List
6 units Electives

Honours Mathematics and Statistics Co-op Programs

Co-op opportunities in Mathematics and Statistics are available in combination with the specializations. Enrolment in these programs is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of a Level II Honours Mathematics and Statistics program with a Cumulative Average of at least 6.0. Information about the program and the selection procedure may be obtained from the Science Career and Cooperative Education Office.

NOTES
1. These are five-level (year) co-op programs which include two eight-month work terms which must be spent in mathematics or statistics related placements.
2. Students must be registered in a full-load and take a full academic program as prescribed, by Level and Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.

Honours Mathematics and Statistics (2325846) (Applied Mathematics Specialization Co-op)

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of Level II Honours Mathematics and Statistics (Applied Mathematics Specialization) with a Cumulative Average of at least 6.0.

NOTE
Students registered in the Applied Mathematics Co-op Specialization may substitute certain courses offered by the Faculty of Engineering and the Department of Physics and Astronomy for up to 12 units of the Level III and IV Mathematics and Statistics course requirements, subject to approval by the Department of Mathematics and Statistics. Please consult with an advisor in the Department of Mathematics and Statistics for further information.

COURSE LIST
MATH 2E03, 2S03, 2T03, 3B03, 3E03, 3F03, 3FF3, 3T03; STATS 2MB3, 3D03, 3DD3, 3S03, 3U03

LEVEL I: 30 UNITS
Completed prior to admission to the program

LEVEL II: 30 UNITS
30 units Completion of Level II Honours Mathematics and Statistics (Applied Mathematics Specialization)

LEVEL III
Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term
Honours Mathematics and Statistics (2325844) (Statistics Specialization Co-op)

ADMISSION

Enrollment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of Level II Honours Mathematics and Statistics (Statistics Specialization) with a Cumulative Average of at least 6.0.

COURSE LIST

MATH 2E03, 2S03, 2T03, 3B03, 3E03, 3F03, 3FF3, 3T03; STATS 2M03, 3D03, 3DD3, 3S03, 3U03

LEVEL I: 30 UNITS

Completed prior to admission to the program

LEVEL II

30 units Completion of Level II Honours Mathematics and Statistics (Statistics Specialization)

LEVEL III

Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term

TERM 1 (FALL): 15 UNITS

3 units STAT'S 3D03
3 units MATH 3A03
3 units from Course List
3 units STAT'S 3A03
3 units Electives
1 course SCIENCE 2C00

TERM 2 (WINTER) AND SUMMER

Work Term

LEVEL IV

Consists of Academic Term 1 (Fall) and Academic Term 2 (Winter) and the second half of the second eight-month work term, Summer Term

TERM 1 AND 2 (FALL AND WINTER): 30 UNITS

3 units MATH 3X03
3 units STAT'S 3DD3
6 units from Course List
9 units Levels III, IV Mathematics or Statistics
9 units Electives

SUMMER

Work Term

LEVEL V

Consists of completion of the second half of the second eight-month work term, Term 1 and Academic Term 2 (Winter)

TERM 1 (FALL)

Work term

TERM 2 (WINTER): 15 UNITS

3 units Levels III, IV Mathematics or Statistics
6 units Levels IV Statistics
6 units Electives

B.Sc. in Mathematical Science [1325]

(Includes Computer Science and Mathematics and Statistics)

ADMISSION

2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1A33, 1XX3
3 units from COMP SCI 1FC3, 1MD3, MATH 1B03, 1D03
6 units from Science I Course List, with a grade of at least C+

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
3 units from MATH 1A03, 1X03
3 units from MATH 1A33, 1XX3
3 units from COMP SCI 1FC3, 1MD3, MATH 1B03, 1D03
6 units from Science I Course List

An average of at least 4.0 in six units from MATH 1A03, 1A33, 1X03, 1XX3 is required.

NOTES

1. Students should be aware that MATH 1B03, in addition to MATH 1D03, may be a prerequisite for upper level Computer Science and Mathematics courses.
2. Students are responsible for ensuring that prerequisites for anticipated courses for Level III are completed in Level II.

MATHEMATICAL SCIENCE COURSE LIST

All Level II, III, IV Computer Science courses; MATH 2A03, 2C03, 2E03, 2K03, 2R03, 2S03, 2T03; STATS 2D03, 2MD3, all Level III and IV Mathematics or Statistics courses

REQUIREMENTS

90 units total (Levels I to III), of which no more than 42 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

12 units from Level II courses from Mathematical Science Course List
6 units from Faculty of Science courses
12 units Electives

LEVEL III: 30 UNITS

12 units from Level III courses from Mathematical Science Course List
3 units from Faculty of Science courses
15 units Electives

Minor in Mathematics and Statistics

NOTE

MATH 2L03 cannot be used for credit towards this Minor.

REQUIREMENTS

27 units total
3 units from MATH 1A03, 1X03
3 units from MATH 1A33, 1XX3
3 units MATH 1B03
18 units Levels II, III, IV Mathematics or Statistics, including at least six units from Levels III, IV Mathematics or Statistics (See Note above.)

MEDICAL PHYSICS AND APPLIED RADIATION SCIENCES

WEB ADDRESS: http://www.science.mcmaster.ca/medphys/index.php

NOTE

Students in Medical and Health Physics programs are expected to have basic skills in the use of personal computers, word processing and spreadsheet software and some familiarity with a programming language.
Honours Medical and Health Physics \{2443\}

**ADMISSION**
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
- 9 units MATH 1A03, 1A93, 1B03 (or 1D03)
- 3 units BIOLOGY 1A03
- 6 units CHEM 1A03, 1A93
- 3 units PHYSICS 1B03
- 3 units from BIOLOGY 1A03, PHYSICS 1B03 (or 1BB3) (See Note 1 below.)
- 6 units Level I electives
1 course SCIENCE 1B00
An average of at least 7.0 in MATH 1A03, 1A93, 1B03 (or 1D03), PHYSICS 1B03 is required.

**NOTES**
1. BIOLOGY 1A03 and PHYSICS 1B03 must be completed by the end of Level II. PHYSICS 1B03 (or 1BB3) is strongly recommended in Level I.
2. A minor in Astronomy or Mathematics or Mathematics and Statistics is not permitted in the Honours Medical and Health Physics program.
3. Psychology courses require permission of the Departmental Academic Advisor or instructor.
4. MED PHYS 4103 will become a Level IV requirement for students entering in 2007. It is strongly recommended for students who entered prior to 2007.

**REQUIREMENTS**
121 units total (Levels I to IV), of which no more than 48 units may be Level I

<table>
<thead>
<tr>
<th>LEVEL I: 30 UNITS</th>
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<tbody>
<tr>
<td>30 units (See Admission above.)</td>
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<table>
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<tr>
<th>LEVEL II: 31 UNITS</th>
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<tbody>
<tr>
<td>3 units MED PHYS 2A03</td>
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<tr>
<td>3-6 units CHEM 2E03; or both CHEM 2OA3 and 2OB3</td>
</tr>
<tr>
<td>9 units MATH 2A03, 2C03, 2F03</td>
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<tr>
<td>13 units PHYSICS 2B06, 2E03, 2H04</td>
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<tr>
<td>0-3 units Electives</td>
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<table>
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<tr>
<th>LEVEL III: 30 UNITS</th>
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<tbody>
<tr>
<td>9 units BIOLOGY 2B03, MATH 3C03, 3D03</td>
</tr>
<tr>
<td>6 units MED PHYS 3R03, 4B03</td>
</tr>
<tr>
<td>12 units PHYSICS 2C03, 3H03, 3M03, 3N03</td>
</tr>
<tr>
<td>3 units from BIOCHEM 3G03, BIOLOGY 2C03, PSYCH 3A03, 3GA3, 3FA3, 3J03, 3N03. (See Note 3 above.)</td>
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<tr>
<th>LEVEL IV: 30 UNITS</th>
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<tbody>
<tr>
<td>3 units BIOLOGY 4J03</td>
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<tr>
<td>15 units MED PHYS 4A03, 4R06, 4T03, 4XX3</td>
</tr>
<tr>
<td>9 units PHYSICS 4D06, 4E03</td>
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<tr>
<td>3 units Electives (See Note 4 above.)</td>
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</tbody>
</table>

Honours Medical and Health Physics Co-op \{2330\}

**ADMISSION**
Enrollment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of Level II Honours Medical and Health Physics with a Cumulative Average of at least 6.0.

Information about the program and the selection procedure may be obtained from the Science Career and Cooperative Education Office.

**NOTES**
1. This is a five-level (year) co-op program which includes two eight-month work terms which must be spent in Medical or Health Physics related placements.
2. Students must be registered in a full-load and take a full academic program as prescribed, by Level and Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. MED PHYS 4I03 will become a Level V requirement for students entering in 2007. It is strongly recommended for students who entered prior to 2007.

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<tr>
<th>LEVEL 1</th>
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<tbody>
<tr>
<td>Term 1</td>
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<td>Term 2</td>
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<tr>
<td>Summer Term</td>
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**LEVEL 2**

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<tr>
<th>LEVEL 3</th>
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<tbody>
<tr>
<td>Term 1</td>
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<td>Term 2</td>
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<td>Summer Term</td>
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<tr>
<th>LEVEL 4</th>
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<tbody>
<tr>
<td>Term 1</td>
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<td>Term 2</td>
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<td>Summer Term</td>
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<th>LEVEL 5</th>
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<td>Term 1</td>
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<th>MEDICAL RADIATION SCIENCES</th>
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<td>WEB ADDRESS: <a href="http://www.science.mcmaster.ca/MedRadSci">http://www.science.mcmaster.ca/MedRadSci</a></td>
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**NOTES**
1. This program is offered jointly in partnership by Mohawk College of Applied Arts and Technology and McMaster University. Students pursue two qualifications simultaneously, and graduate with the Bachelor in Medical Radiation Sciences from Mohawk and the McMaster Bachelor of Medical Radiation Sciences degree.
2. The overall program comprises ten semesters within four calendar years. Three full semesters are spent in clinical placement. Students are required to be registered in a full load of courses as prescribed by Level and Term for their program.

3. At the end of Level I, each student will be streamed into one of three available specializations, Radiography, Ultrasoundography or Radiation Therapy. Students may indicate their option preference; however, since enrolment is limited by number of available clinical placements, students may be streamed into a specialization that is not of their choosing.

4. Placements will be with agencies that have contracted in advance with Mohawk College to provide specific experiences and resources during the normal clinical semester schedule; therefore, placements are not available at any other agencies or during other times. The College, in accordance with established policy, will determine allocation of students to these clinical facilities. The final assignment of learning settings is constrained by the availability of site resources. Students may be required to attend clinical practice in a setting that is not of their choosing. The College cannot accommodate any student requests for special consideration. Students must prepare financially and personally to relocate and/or commute to their assigned clinical placements. Students are responsible for arranging their own travel to and from assigned placements and are responsible for covering any costs incurred.

5. All students may be required to attend full-time clinical practica at minimum of two different clinical agencies that may be located across Ontario.

6. Basic Cardiac Life Support Training: All Level II students are required to have obtained a current certificate in Basic Cardiac Life Support - Level C and First Aid Training prior to commencing term 2 of Level II.

7. All students will be required to act as simulated patients for their peers in skills course labs and during skills practice sessions.

8. Immunization and Health Screening: The Ontario Public Health Act requires that all persons working or on educational placement in a hospital setting meet criteria regarding surveillance for infectious diseases. All Level II students will be required to provide evidence of compliance with completion of mandatory immunization requirements as well as completing pre-clinical disease screening.

9. A satisfactory Police Records Check may be required for clinical placements. All costs associated with this procedure are the responsibility of the student.

10. The College reserves the right to require the withdrawal of a student should his or her conduct so warrant. The Medical Radiation Sciences program reserves the right, at any point during the term, to remove a student from a clinical placement or laboratory setting if the student exhibits unsafe clinical practice or behaviour that places clients or others at risk.

11. The Medical Radiation Sciences program monitors and documents students' clinical experience in order that students meet the requirements of the program as well as meet the minimum practice requirements to be eligible for registration to practice.

12. Graduation from the Medical Radiation Sciences program does not guarantee registration with the regulatory bodies of the respective professions or employment within Canada. All graduates who wish to engage in clinical practice in ultrasonography, radiography or radiation therapy are subject to any qualifying examinations and other requirements by the certifying and/or regulatory bodies for each of these professions. Regulatory requirements are subject to change.

13. Levels II through IV run consecutively from September of Level II to graduation of the program at the end of April in Level IV. The pattern of semesters of clinical practicum and academic courses is shown in the chart below.

14. For progression to Levels III and IV, students are required to have completed the previous Level successfully with a Cumulative Average of at least 5.0 or have permission of the Review Committee.

15. A student with incomplete units at any Level may not progress within their specialization except with the permission of the Review Committee.

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**Medical Radiation Sciences (Radiation Therapy Specialization)**

**Admission**

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Medical Radiation Sciences I with a Cumulative Average of at least 5.0, including:

- 9 units MEDRADSC 1A03, 1B03, 1C03
- 3 units BIOLOGY 1A03
- 3 units CHEM 1A03
- 6 units KINESIO 1Y03, 1YY3
- 3 units MATH 1A03
- 3 units STATS 1C13

**Requirements**

153 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 108 units of academic courses in Levels II to IV.

**Course List**

- ANTHROP 3Z03, 3ZZ3, HEALTHST 2C03, 2D03, 2E03, 2H03, 3D03, 3E03, 3H03; KINESIO 3S3; RELIG ST 2M03, 2N03, 2W03

**Level I**

- 30 units (See Admission above.)

**Level II (Fall and Winter): 30 Units**

- 18 units MEDRADSC 2A03, 2B03, 2C03, 2D03, 2E03, 2F03
- 9 units MEDRADSC 2S03, 2T03, 2U03
- 3 units PSYCH 1AA3

**Level II (Spring and Summer): 15 Units**

- 15 units MEDRADSC 2V15 (Clinical Practicum I)

**Level III (Fall and Winter): 33 Units (2007-2008 Only)**

- 15 units MED PHYS 4A03
- 12 units MEDRADSC 3F03, 3I03, 3K03, 3X03
- 9 units MEDRADSC 3S03, 3T03, 3V03
- 3 units from HEALTHST 3E03, PHILOS 2D03
- 3 units from Course List
- 3 units Electives

**Level III (Fall and Winter): 33 Units (Effective 2008-2009)**

- 12 units MEDRADSC 3B03, 3E03, 3I03, 3W03
- 9 units MEDRADSC 3S03, 3T03, 3V03
- 3 units HEALTHST 3E03
- 3 units from Course List
- 3 units Electives

**Level IV (Fall and Winter): 30 Units**

- 15 units MEDRADSC 4F15 (Clinical Practicum II)
- 15 units MEDRADSC 4F15 (Clinical Practicum III)

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**Medical Radiation Sciences (Radiography Specialization)**

**Admission**

Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Medical Radiation Sciences I with a Cumulative Average of at least 5.0, including:
REQUIREMENTS
153 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 108 units of academic courses in Levels II to IV.

COURSE LIST
ANTHROP 3Z03, 3ZZ3; HEALTHST 2C03, 2D03, 2E03, 2H03, 3D03, 3E03, 3H03; KINESIOL 3SS3; RELIG ST 2M03, 2N03, 2WW3

LEVEL I
9 units MEDRADSC 1A03, 1B03, 1C03
3 units BIOLOGY 1A03
3 units CHEM 1A03
6 units KINESIOL 1Y03, 1YY3
3 units MATH 1A03
3 units STATS 1CC3

LEVEL II (FALL AND WINTER): 30 UNITS
18 units MEDRADSC 2A03, 2B03, 2C03, 2D03, 2E03, 2F03
9 units MEDRADSC 2G03, 2H03, 2I03
3 units PSYCH 1A03

LEVEL II (SPRING AND SUMMER): 15 UNITS
15 units MEDRADSC 2J15 (Clinical Practicum I)

LEVEL II (FALL AND WINTER): 33 UNITS (2007-2008 ONLY)
12 units MEDRADSC 3A03, 3F03, 3I03, 3X03
12 units MEDRADSC 3G03, 3H03, 3J03, 3K03
3 units from HEALTHST 3E03, PHILOS 2D03
3 units from Course List
3 units Electives

LEVEL II (FALL AND WINTER): 33 UNITS (EFFECTIVE 2008-2009)
12 units MEDRADSC 3A03, 3F03, 3I03, 3X03
15 units MEDRADSC 3G03, 3H03, 3J03, 3K03
3 units HEALTHST 3E03
3 units from Course List
3 units Electives

LEVEL III (SPRING AND SUMMER): 15 UNITS
12 units MEDRADSC 3B03, 3C03, 3E03, 3L03
3 units from MEDRADSC 3DA3, 3DB3, 3DD3, 3DE3

LEVEL IV (FALL AND WINTER): 30 UNITS
15 units MEDRADSC 4A15 (Clinical Practicum II)
15 units MEDRADSC 4B15 (Clinical Practicum III)

Medical Radiation Sciences (Ultrasonography Specialization)

Admission
Enrolment in this program is limited and admission is by selection but requires, as a minimum, completion of Medical Radiation Sciences I with a Cumulative Average of at least 5.0, including:

9 units MEDRADSC 1A03, 1B03, 1C03
3 units BIOLOGY 1A03
3 units CHEM 1A03
6 units KINESIOL 1Y03, 1YY3
3 units MATH 1A03
3 units STATS 1CC3

Requirements
153 units total (Levels I to IV), 45 units of clinical practicum are interspersed with 108 units of academic courses in Levels II to IV.

Course List
ANTHROP 3Z03, 3ZZ3; HEALTHST 2C03, 2D03, 2E03, 2H03, 3D03, 3E03, 3H03; KINESIOL 3SS3; RELIG ST 2M03, 2N03, 2WW3

Level I
30 units (See Admission above.)

Level II (Fall and Winter): 30 Units
18 units MEDRADSC 2A03, 2B03, 2C03, 2D03, 2E03, 2F03
9 units MEDRADSC 2G03, 2H03, 2I03
3 units PSYCH 1A03

Level II (Spring and Summer): 15 Units
15 units MEDRADSC 2J15 (Clinical Practicum I)

Level II (Fall and Winter): 33 Units (2007-2008 Only)
12 units MEDRADSC 3A03, 3F03, 3I03, 3X03
12 units MEDRADSC 3G03, 3H03, 3J03, 3K03
3 units from HEALTHST 3E03, PHILOS 2D03
3 units from Course List
3 units Electives

Level II (Fall and Winter): 33 Units (Effective 2008-2009)
12 units MEDRADSC 3A03, 3F03, 3I03, 3X03
15 units MEDRADSC 3G03, 3H03, 3J03, 3K03
3 units HEALTHST 3E03
3 units from Course List
3 units Electives

Level III (Spring and Summer): 15 Units
12 units MEDRADSC 3B03, 3C03, 3E03, 3L03
3 units from MEDRADSC 3DA3, 3DB3, 3DD3, 3DE3

Level IV (Fall and Winter): 30 Units
15 units MEDRADSC 4A15 (Clinical Practicum II)
15 units MEDRADSC 4B15 (Clinical Practicum III)

MOLECULAR BIOLOGY

(See Interdisciplinary Programs)

ORIGINS RESEARCH SPECIALIZATION

(See Interdisciplinary Programs)

DEPARTMENT OF PHYSICS

AND ASTRONOMY

WEB ADDRESS: http://www.physics.mcmaster.ca/

Honours Arts & Science and Physics
(B.Arts.Sc.; See Arts & Science Program)

Honours Mathematics and Physics
(See Department of Mathematics and Statistics)

Honours Medical and Health Physics
(See Medical Physics and Applied Radiation Sciences)

Honours Medical and Health Physics Co-op
(See Medical Physics and Applied Radiation Sciences)
Honours Physical Science

(See Interdisciplinary Programs)

NOTES APPLICABLE TO ALL HONOURS PHYSICS PROGRAMS

1. In addition to the Honours Physics program, the Department offers four specializations. The Honours program consists of a specified set of basic requirements and a wide choice of electives (including those from outside the Faculty of Science), allowing for interdisciplinary studies or the opportunity to complete a Minor in another subject. Alternatively, students may wish to complete one of the following specializations which are more appropriate for graduate studies in Physics or Astronomy.

- Astrophysics Specialization
- Biophysics Specialization
- Computation and Theory Specialization
- Experimental Specialization

Honours Physics may also be combined with the Origins Research Specialization.

2. Transfer between options is possible at any time, subject to satisfying the requirements for that option.

3. Admission to Honours Physics Co-op is in Level III and is possible from any of these options.

4. The Physics Department considers the Astrophysics, Biophysics, Computation and Theory or Experimental specializations to be more appropriate for graduate studies in Physics or Astronomy.

5. A minor in Astronomy or Mathematics or Mathematics and Statistics is not permitted in the Honours Physics program.

6. Students in all Physics programs are expected to have basic skills in the use of personal computers, word processing and spreadsheet software, and some familiarity with a programming language such as Basic, C, Fortran or Pascal. PHYSICS 1A03, 1AA3 is recommended in Level I.

Honours Physics 2440800

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0, including:

- 6 units MATH 1A03, 1AA3, with an average of at least 6.0
- 3 units PHYSICS 1B03 with a grade of at least C+
- 3 units from PHYSICS 1A3, 1B33 with a grade of at least C+
- 6 units CHEM 1A03, 1AA3
- 6 units from Science I Course List

REQUIREMENTS

121 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 31 UNITS

- 16 units PHYSICS 2B06, 2C03, 2E03, 2H04
- 6 units MATH 2A03, 2C03
- 3 units ASTRON 2E03
- 6 units Electives, which must include ASTRON 1F03 and MATH 1B03 or 1D03 if not completed in Level I

LEVEL III: 30 UNITS

- 12 units ASTRON 3X03, PHYSICS 2G03, 3H03, 3MM3, 3N03
- 6 units MATH 3C03, 3D03
- 9 units Electives (one of Origins 3A03, 3B03, 3C03 or 3D03 is recommended.)

LEVEL IV: 30 UNITS (2007-2008 ONLY)

- 12 units ASTRON 3Y03, PHYSICS 4A03, 4B03, 4F03
- 9 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
- 9 units Electives (PHYSICS 4G03 is recommended.)

LEVEL IV: 30 UNITS (EFFECTIVE 2008-2009)

- 12 units ASTRON 3Y03, PHYSICS 4A03, 4B03, 4F03
- 3-6 units PHYSICS 4L03, 4P06
- 6 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 4G03
- 6-9 units Electives (PHYSICS 4G03 is recommended.)

Honours Physics 2440866

(Biophysics Specialization)

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0, including:

- 6 units MATH 1A03, 1AA3, with an average of at least 6.0
- 3 units PHYSICS 1B03 with a grade of at least C+
- 3 units from PHYSICS 1A3, 1B33 with a grade of at least C+
- 6 units CHEM 1A03, 1AA3
- 6 units from Science I Course List

REQUIREMENTS

121 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 31 UNITS

- 16 units PHYSICS 2B06, 2C03, 2E03, 2H04
- 6 units MATH 2A03, 2C03
- 6 units BIOCHEM 2B03, 2B03
- 3 units Electives, which must include BIOLOGY 1A03 and MATH 1B03 or 1D03 if not completed in Level I

LEVEL III: 30 UNITS

- 12 units PHYSICS 3H03, 3K03, 3M03, 3S03
- 6 units MATH 3C03, 3D03
- 6 units BIOCHEM 2L06
- 6 units Electives (ORIGINS 3D03 is recommended.)

LEVEL IV: 30 UNITS

- 3 units from BIOCHEM 3Y03, 4Y03
- 6 units PHYSICS 4A03, 4S03
- 3-6 units from PHYSICS 4L03, 4P06
- 6 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
- 9-12 units Electives (See Note 2 above.)
Honours Physics (Computation and Theory Specialization) {2440888}

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units MATH 1A03, 1A3 with an average of at least 6.0
3 units PHYSICS 1B03 with a grade of at least C+
3 units from PHYSICS 1B03, 1BB3 with a grade of at least C+
6 units CHEM 1A03, 1AA3
6 units from Science I Course List (See Note below.)

NOTE
This Specialization requires completion of MATH 1B03 therefore, students without Grade 12 Geometry and Discrete Math U must complete MATH 1D03 in Level I.

REQUIREMENTS
121 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I
30 units (See Admission above.)

LEVEL II: 31 UNITS
15 units PHYSICS 2B06, 2C03, 2E03, 2G03, 2H04
12 units MATH 2A03, 2C03, 2R03, 2T03

LEVEL III: 30 UNITS
15 units PHYSICS 3A03, 3H03, 3K03, 3M3M, 3N03
6 units MATH 3C03, 3D03
9 units Electives (MATH 3Q03 is recommended.)

LEVEL IV: 30 UNITS (2007-2008 ONLY)
15 units PHYSICS 3C03, 4A03, 4B03, 4F03, 4G03
9 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
6 units Electives

LEVEL IV: 30 UNITS (EFFECTIVE 2008-2009)
15 units PHYSICS 3C03, 4A03, 4B03, 4F03, 4G03
6 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
3-6 units from PHYSICS 4L03, 4P06
3-6 units Electives

Honours Physics (Experimental Specialization) {2440810}

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units MATH 1A03, 1AA3 with an average of at least 6.0
3 units PHYSICS 1B03 with a grade of at least 6.0
3 units from PHYSICS 1B03, 1BB3 with a grade of at least C+
6 units CHEM 1A03, 1AA3
6 units from Science I Course List

REQUIREMENTS
121 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I
30 units (See Admission above.)

LEVEL II: 31 UNITS
15 units PHYSICS 2B06, 2C03, 2E03, 2H04
8 units MATH 2A03, 2C03
9 units Electives, which must include MATH 1B03 or 1D03 if not completed in Level I.

LEVEL III: 30 UNITS
18 units PHYSICS 3B03, 3B03, 3H03, 3K03, 3M3M, 3N03
6 units MATH 3C03, 3D03
6 units Electives

LEVEL IV: 30 UNITS (2007-2008 ONLY)
15 units PHYSICS 4A03, 4B03, 4F03, 4P06
9 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
6 units Electives

LEVEL IV: 30 UNITS (EFFECTIVE 2008-2009)
9 units PHYSICS 4A03, 4B03, 4F03
3-6 units from PHYSICS 4L03, 4P06
6 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03
9-12 units Electives

Honours Physics Co-op {24445}

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement and an interview but requires, as a minimum, completion of Level II Honours Physics with a Cumulative Average of at least 6.0. Information about the program and the selection procedure may be obtained from Science Career and Cooperative Education Office and the Chair of the Committee of Instruction.

NOTES
1. This is a five-level (year) co-op program which includes two eight-month work terms which must be spent in Physics related placements.
2. Students must be registered full-time and take a full academic load as prescribed by Level and Term.
3. Students are required to complete SCIENCE 2C00, a Work Orientation course, before the first work placement.
4. Students considering postgraduate studies in Physics should take PHYSICS 4F03 as one of the electives in Level V.

REQUIREMENTS
121 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I: 30 UNITS
Completed prior to admission to the program

LEVEL II: 31 UNITS
* Completion of any Level II Honours Physics program

Honours Physics (Origins Research Specialization) {2440412}

NOTE
Completion of both BIOLOGY 1A03, 1AA3 and either MATH 1B03 or 1D03 is required by the end of Level II and is strongly recommended in Level I.

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units MATH 1A03, 1AA3 with an average of at least 6.0
3 units PHYSICS 1B03 with a grade of at least 6.0
3 units from PHYSICS 1B03, 1BB3 with a grade of at least C+
6 units CHEM 1A03, 1AA3
6 units from Science I Course List (See Note below.)

NOTES
1. Completion of ORIGINS 2B03, 2FF3 and 2S03 is required by the end of Level III.
2. ASTRON 1F03 is recommended in Level I.
3. Completion of both BIOLOGY 1A03, 1AA3 and either MATH 1B03 or 1D03 is required by the end of Level II and is strongly recommended in Level I.

ORIGINS COURSE LIST
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

REQUIREMENTS
121 units total (Levels I to IV), of which no more than 48 units may be Level I.

LEVEL I
30 units (See Admission above.)

LEVEL II: 31 UNITS
15 units PHYSICS 2B06, 2C03, 2E03, 2H04
6 units MATH 2A03, 2C03
3 units from ORIGINS 1B03, 1BB3 (See Note below.)
3 units ORIGINS 2803
3 units Electives (See Note 3 above.)

LEVEL III: 30 UNITS
6 units PHYSICS 3H03, 3M3M
6 units MATH 3C03, 3D03
3 units ORIGINS 2B03
3 units Electives

LEVEL IV: 30 UNITS
6 units PHYSICS 4A03
6 units from Levels III, IV Astronomy, Mathematics, Physics, GEO 3V03

LEVEL V: 31 UNITS
* Completion of any Level II Honours Physics program
LEVEL III
Consists of Academic Term 1 (Fall) and completion of the first eight-month work term, Term 2 (Winter) and Summer Term

TERM 1 (FALL): 16 UNITS
3 units MATH 3C03
6 units PHYSICS 3B03
4 units PHYSICS 3HC1, 3N03
6 units Electives
1 course SCIENCE 2C00

TERM 2 (WINTER) AND SUMMER
Work Term

LEVEL IV (2007-2008 ONLY)
Consists of Academic Level IV Term 1 (Fall) and Academic Level III, Term 2 (Winter), and the first half of the second eight-month work term, Summer Term

TERMS 1 AND 2 (FALL AND WINTER): 31 UNITS
3 units MATH 3D03
6 units PHYSICS 3K03, 3MM3
10 units PHYSICS 4AA1, 4B03, 4P06
12 units Electives

LEVEL IV (EFFECTIVE 2008-2009)
Consists of Academic Level IV Term 1 (Fall) and Academic Level III, Term 2 (Winter), second eight-month work term, Summer Term

TERMS 1 AND 2 (FALL AND WINTER): 31 UNITS
3 units MATH 3D03
6 units PHYSICS 3K03, 3MM3
4 units PHYSICS 4AA1, 4B03
3-6 units PHYSICS 4L03, 4P06
12-15 units Electives

SUMMER
Work Term

LEVEL V
Consists of completion of the second half of the second eight-month work term, Term 1 (Fall) and Academic Level IV, Term 2 (Winter)

TERM 1 (FALL)
Work term

TERM 2 (WINTER): 13 UNITS
4 units PHYSICS 3H02, 4A02
3 units from PHYSICS 4E03, 4K03
6 units Electives (PHYSICS 4F03 is strongly recommended.)
(See Note 4 above.)

B.Sc. Three-Level Degree
A three-level program with a Physics orientation is available through the B.Sc. in Physical Science. Please see Interdisciplinary Programs in this section of the Calendar.

Minor in Astronomy

REQUIREMENTS
24-27 units total
3 units from ASTRON 1F03, 2E03
6 units MATH 2A03, 2C03
3 units PHYSICS 2A03
3-6 units from either CHEM 2R03 or PHYSICS 2H04, or both
3 units from PHYSICS 2D03, 2E03
6 units ASTRON 3X03, 3Y03

Minor in Physics

NOTE
MATH 2A03 is the minimum mathematics required in order to complete a Minor in Physics. However, more flexibility is possible if MATH 2C03 is also completed.

REQUIREMENTS
24 units total
6 units from PHYSICS 1B03, 1BA3 (or 1B3)
18 units from GEO 3V03, 3Z23, Levels II, III, IV Astronomy, Physics, including at least six units from Levels III, IV Astronomy, Physics

DEPARTMENT OF PSYCHOLOGY,
NEUROSCIENCE AND BEHAVIOUR

WEB ADDRESS: http://www.mcmaster.ca/psychology

Honours Arts & Science and Psychology
(B.Arts.Sc.; See Arts & Science Program)

Honours Biology and Psychology
(B.Sc.; See Department of Biology)

Honours Life Science
(See Interdisciplinary Programs)

Honours Linguistic Cognitive Science
(B.A.; See Faculty of Humanities, Department of Linguistics and Languages)

Honours Psychology (B.A.) and B.A. in Psychology
(See Faculty of Social Sciences, Department of Psychology, Neuroscience and Behaviour)

Honours Psychology (B.Sc.)

REQUIREMENTS FOR STUDENTS ENTERING LEVEL II IN 2007-2008

NOTES
1. It is recommended that students complete both CHEM 1A03 and PHYSICS 1B03. Chemistry is particularly useful for neuroscience and biological aspects of psychology. Physics is particularly useful for perception, electrophysiology and mathematical modelling of psychological processes.
2. MATH 1B03 (Linear Algebra I) or MATH 1D03 (Algebra and Geometry) is strongly recommended for students intending to pursue graduate work in Psychology. COMP SCI 1MA3 (Computer Based Problem Solving) or COMP SCI 1S23 (Computing Fundamentals) is highly recommended for students interested in Behavioural Neuroscience and Cognition and Perception, and for students intending to pursue graduate work in Psychology.
3. Students wishing to have more mathematical statistics may replace PSYCH 2RA3 and 2RB3 with STATS 2D03 and 2MB3. In this case, students are advised to take MATH 1B03 or MATH 1D03 in Level I and consult with a departmental advisor.

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units PSYCH 1A03, 1AA3 with a grade of at least B- in each
3 units MATH 1A03
3 units from BIOLOGY 1A03, 1A3
3 units from CHEM 1A03, PHYSICS 1B03 (See Note 1 above.)
3 units from MATH 1A03, 1B03, 1D03, STATS 1CC3 (See Notes 2 and 3 above.)
6 units from Science I Course List
L. Priority will be given to students registered in Honours Psychology.

2. Students wishing to take these courses must complete and submit a ballot by mid April. Specific dates will be announced during the Fall term. Ballots can be obtained from the Department of Psychology, Neuroscience and Behaviour web site at http://www.mcmaster.ca/psychology. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.

LAB COURSE LIST

PSYCH 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03

CAPSTONE COURSE LIST

PSYCH 3106, 4B03, 4BN3, 4C03, 4D06, 4D09, 4F03, 4J03, 4Q03, 4QQ3, 4R03, 4Y03

PSYCHOLOGY COURSE LIST

BIOLOGY 4T03; HTH SCI 4B83; KINESIOl 3E03, 4P03; all Level III and IV Psychology courses except PSYCH 3PP3, 3SS3

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

6 units PSYCH 2RA3, 2RB3
3 units from PSYCH 2D03, 2F03
9 units PSYCH 2E03, 2H03, 2T3
3 units from Faculty of Science courses
9 units Electives

LEVEL III: 30 UNITS

12 units from Psychology Course List
3 units from Lab Course List
15 units Electives

LEVEL IV: 30 UNITS

6 units from Psychology Course List
9 units 6 units from Capstone Course List and 3 units from Psychology Course List
or
PSYCH 4D09
15 units Electives

Honours Psychology (Core) [2461856]

The Honours Psychology (Core) program is being phased out and is being replaced by Honours Psychology. Students who intended to register in this program should see Honours Psychology above. Entry to Level I Honours Psychology (Core) will be last available in 2007-2008.

NOTES

1. Students who completed PSYCH 3QQ3 or 4QQ3 prior to September 2007, may use this credit towards fulfilling the Level III lab requirement. Effective September 2007, PSYCH 3QQ3 and 4QQ3 will no longer fulfill this requirement.
2. Students intending to do a thesis (PSYCH 4D06 or 4D09) are advised to complete the lab requirement prior to doing a thesis. Effective September 2008, completing a lab prior to doing a thesis will become a requirement.
3. The Department of Psychology, Neuroscience and Behaviour pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D06, 4D09), and the Individual Study courses (PSYCH 2Q03, 3QQ3, 3QQ3, 4QQ3). Students wishing to take these courses must complete and submit a ballot by mid February. Students will be informed of the outcome of the first phase by mid March. The second phase will include lab courses (PSYCH 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4B03, 4BN3, 4C03, 4F03, 4J03, 4R03). Students wishing to take these courses must complete and submit a ballot by mid April. Specific dates will be announced during the Fall term. Ballots can be obtained from the Department of Psychology, Neuroscience and Behaviour web site at http://www.mcmaster.ca/psychology. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.

LAB COURSE LIST

PSYCH 3BL3, 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03

CAPSTONE COURSE LIST

PSYCH 3106, 4B03, 4BN3, 4C03, 4D06, 4D09, 4F03, 4J03, 4Q03, 4QQ3, 4R03, 4Y03

PSYCHOLOGY COURSE LIST

BIOLOGY 4T03; HTH SCI 4B83; KINESIOl 3E03, 4P03; all Level III and IV Psychology courses except PSYCH 3PP3, 3SS3

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL II: 30 UNITS

12 units from Psychology Course List, PSYCH 2D03, 2E03, 2F03, 2H03, 2T3
3 units from Lab Course List (see Notes 1 and 2 above.)
15 units Electives

LEVEL IV: 30 UNITS

6 units from Psychology Course List
9 units 6 units from Capstone Course List and 3 units from Psychology Course List
or
PSYCH 4D09
15 units Electives

Honours Psychology (Behavioural Neuroscience Specialization) [2461858]

The Honours Psychology (Behavioural Neuroscience Specialization) is being phased out. Registration in Level II will be last available in September 2007.

ADMISSION

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units PSYCH 1A03, 1AA3 with a grade of at least B- in each
3 units MATH 1A03
3 units from BIOLOGY 1A03, 1AA3
3 units from CHEM 1A03, PHYSICS 1B03 (see Note 1 in Honours Psychology 2463)
3 units from MATH 1AA3, 1BB3, 1D03, STATS 1CC3 (see Notes 2 and 3 in Honours Psychology 2463.)
6 units from Science I Course List

REQUIREMENTS

120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I

30 units (See Admission above.)

LEVEL II: 30 UNITS

6 units PSYCH 2RA3, 2RB3
12 units PSYCH 2E03, 2H03, 2T3
12 units Electives, of which at least three units must be from the Faculty of Science

LEVEL III: 30 UNITS

9 units from PSYCH 2D03, 3A03, 3AA3, 3BN3, 3FA3, 3H03, 3J03, 3M03, 3Y03
6 units from Psychology Course List PSYCH 2D03, 2E03, 2H03, 2T3
3 units from Lab Course List, PSYCH 3EE3, 3L03, 3MM3 or 3S03; 3V03 is recommended. (see Notes 2 and 3 above.)
12 units Electives, of which at least six must be selected from the Faculty of Science
LEVEL IV: 30 UNITS
6 units from BIOLOGY 4T03, PSYCH 2D03, 3A03, 3AA3, 3BN3, 3FA3, 3HH3, 3J03, 3M03, 3Y03, 4BN3, 4F03, 4Y03
3 units from Psychology Course List
9 units 3 units from Capstone Course List and 3 units from Psychology Course List or PSYCH 4D09
12 units Electives

Honours Psychology {2461890}
(Cognition and Perception Specialization)

The Honours Psychology (Cognition and Perception Specialization) is being phased out. Registration in Level II will be last available in September 2007.

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units PSYCH 1A03, 1AA3 with a grade of at least B in each
3 units MATH 1A03
3 units from BIOLOGY 1A03, 1AA3
3 units from CHEM 1A03, PHYSICS 1B03 (See Note 1 in Honours Psychology 2463.)
3 units from MATH 1AA3, 1B03, 1D03, 1CC3 (See Notes 2 and 3 in Honours Psychology 2463.)
6 units from Science I Course List

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units PSYCH 2RA3, 2RB3
3 units from PSYCH 2D03, 2F03
9 units PSYCH 2E03, 2H03, 2TT3
12 units Electives, of which at least three units must be from the Faculty of Science

LEVEL III: 30 UNITS
12 units from PSYCH 3A03, 3AA3, 3BB3, 3BN3, 3FA3, 3HH3, 3I03, 3J03, 3U03, 3UU3, 3V03
3 units from Psychology Course List, PSYCH 2D03, 2F03, 2TT3
3 units from Lab Course List, PSYCH 3EE3, 3LL3 or 3V03 is recommended. (See Notes 2 and 3 above.)
12 units Electives, of which at least six units must be from the Faculty of Science

LEVEL IV: 30 UNITS
6 units from PSYCH 3A03, 3AA3, 3BB3, 3BN3, 3FA3, 3HH3, 3I03, 3J03, 3U03, 3UU3, 3V03, 4BN3, 4C03, 4D03
3 units from Psychology Course List
9 units 6 units from Capstone Course List B and 3 units from Psychology Course List or PSYCH 4D09
12 units Electives

Honours Psychology {2461864}
(Evolution and Social Behaviour Specialization)

The Honours Psychology (Evolution and Social Behaviour Specialization) is being phased out. Registration in Level II will be last available in September 2007.

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units PSYCH 1A03, 1AA3 with a grade of at least B in each
3 units MATH 1A03
3 units from BIOLOGY 1A03, 1AA3
3 units from CHEM 1A03, PHYSICS 1B03 (See Note 1 in Honours Psychology 2463.)
3 units from MATH 1AA3, 1B03, 1D03, 1CC3 (See Notes 2 and 3 in Honours Psychology 2463.)
6 units from Science I Course List

NOTE
REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
6 units PSYCH 2RA3, 2RB3
3 units from PSYCH 2D03, 2F03
9 units PSYCH 2E03, 2H03, 2TT3
12 units Electives, of which at least three units must be from the Faculty of Science

LEVEL III: 30 UNITS
9 units 6 units from PSYCH 3A03, 3AA3, 3BB3, 3BN3, 3FA3, 3HH3, 3I03, 3J03, 3U03, 3UU3, 3V03 is recommended. (See Notes 2 and 3 above.)
6 units from Psychology Course List, PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3
12 units Electives, of which at least six units must be from the Faculty of Science
LEVEL IV: 30 UNITS
6 units PSYCH 2C03, 3A03, 3F03, 3JJ3, 3M03, 3T03, 3Y03, 4R03, 4Y03
3 units from Psychology Course List
9 units 6 units from Capstone Course List and 3 units from Psychology Course List
or
PSYCH 4D09
12 units Electives

Honours Psychology (B.Sc.) {2463412}
(Origins Research Specialization)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units PSYCH 1A03, 1AA3 with a grade of at least B-
3 units MATH 1A03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
3 units from BIOLOGY 1A03, 1AA3
3 units from CHEM 1A03, PHYSICS 1B03
3 units from ASTRON 1F03, PHYSICS 1BA3, 1BB3
3 units from CHEM 1AA3, ENVIR SC 1G03

NOTE
Completion of BIOLOGY 1A03, 1AA3, CHEM 1A03, PHYSICS 1B03 is required by the end of Level II.

LAB COURSE LIST
PSYCH 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03

PSYCHOLOGY COURSE LIST
BIOLOGY 4T03; HTH SCI 4B3; KINESIOL 3E03 4P03; all Level III and IV Psychology courses except PSYCH 3PP3, 3SS3

ORIGINS COURSE LIST
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units from PSYCH 2D03, 2F03
6 units from PSYCH 2E03, 2H03, 2TT3
6 units PSYCH 2RA3, 2RB3
9 units ORIGINS 2B03, 2F03, 2S03
6 units Electives (See Note above.)

LEVEL III: 30 UNITS
3 units from PSYCH 2E03, 2H03, 2TT3
6 units from Psychology Course List
3 units from Lab Course List (See Notes 2 and 3 in Honours Psychology 2463.)
6 units from Origins Course List
3 units from ORIGINS 3S03
9 units Electives

LEVEL IV: 30 UNITS
12 units from Psychology Course List
9 units ORIGINS 4A09
9 units Electives

B.Sc. Three-Level Degree
A three-level program with a general Life-Science orientation is available through the B.Sc. in Life Science. See Interdisciplinary Programs in this section of the Calendar.

Minor In Psychology

NOTES
1. As all courses have enrolment capacities, the Faculty cannot guarantee registration in courses, even when prerequisites have been met. Completion of the Minor in Psychology may not be possible.
2. When choosing Level II courses students should consider the prerequisites for Level III courses.

REQUIREMENTS
24 units total
6 units from PSYCH 1A03, 1AA3
18 units Level II, III Psychology courses, including at least six units from Level III Psychology courses

INTERDISCIPLINARY PROGRAMS

Honours Computational Biology {2054}
(Effective 2008-2009)

Honours Computational Biology is a research-intensive program that focuses on interdisciplinary studies between Biology, Mathematics and Computer Science, preparing students for graduate studies or careers in industry or academic research laboratories. The program enables students to develop knowledge and understanding of the power of mathematics and computer technology and to apply these to questions of biological and biomedical interest.

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, including:
6 units BIOLOGY 1A03, 1AA3 with an average of at least 6.0
3 units BIOLOGY 2XX3 (See Note 3 below.)
6 units CHEM 1A03, 1AA3
6 units from MATH 1A03 (or 1X03), 1AA3 (or 1XX3)
3 units from PHYSICS 1B03, 1L03

NOTES
1. This program is administered through the Department of Biology.
2. Information may be obtained through the Program Administrator in Life Sciences Building, Room 118 who can refer students to the appropriate faculty advisor.
3. Students who have not completed BIOLOGY 1X03 may still be considered for admission; however, it must be completed by the end of Level II.
4. Students who have not completed Grade 12 Chemistry U must complete CHEM 1R03 in Level I.
5. Students without Grade 12 Geometry and Discrete Math U will require MATH 1D03. Students who have completed the Grade 12 course should register in MATH 1B03.
6. With permission, students may complete another thesis course, supervised by faculty from the Departments of Mathematics and Statistics, or Computing and Software.
7. Students with interests in computational genetics are encouraged to complete BIOLOGY 3I03, 3S03, 4E03. Students with interests in other areas of computational biology can seek advice on their choices.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
3 units BIOLOGY 2C03
3 units from BIOLOGY 2A03, 2B03
3 units from BIOLOGY 2D03, 2E03, 2F03
3 units from BIOLOGY 2YY3, 2Z03
3 units MATH 1B03
3 units from MATH 2A03, 2X03
3 units MATH 2C03
3 units COMP SCI 1MD3
6 units Electives, which must include BIOLOGY 1X03 if not completed in Level I

LEVEL III: 30 UNITS
9 units BIOLOGY 3FF3, 3S03, 3YY3
3 units from BIOLOGY 2A03, 2B03 (whichever is not completed)
3 units from BIOLOGY 2YY3, 2Z03 (whichever is not completed)
3 units COMP SCI 2FC3
3 units from MATH 2E03, 3D03, 3F03
6 units STATS 2D03, 2MB3
3 units Electives

LEVEL IV: 30 UNITS
6 units from BIOCHEM 3Y03, 4V03, BIOLOGY 4AA3, 4DD3, 4EO3
6-9 units from BIOLOGY 4CC9, 4F06 (See Note 6 above.)
3 units COMP SCI 3DA3
9 units Levels III, IV Biology (See Note 7 above.)
3-6 units Electives
Honours Life Science

FORMERLY HONOURS SCIENCE (LIFE SCIENCE)
(Includes Biochemistry, Biology and Psychology)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 5.0 including:
3 units MATH 1A03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
6 units from BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3
12 units from Science I Course List
A grade of at least C+ in one of BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3 and one other course from the Science I Course List is required.

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 6.0 including:
3 units MATH 1A03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
9 units from BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3 with an average of at least 6.0
9 units from Science I Course List

NOTES
1. BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3 must be completed by the end of Level II.
2. For students who entered the program in September 2007 or prior, at each academic review after completion of Level I, a Cumulative Average of at least 6.0 is required to continue in the Honours Life Science program.
3. Students who intend to complete Biochemistry courses or who wish to be eligible for a wider selection of Biology and Psychology courses, must complete a total of 18 units as follows: BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3, PSYCH 1A03, 1AA3.
4. Registration in the Honours Life Science program does not guarantee access to all courses. Some courses have program restrictions and students are responsible to read course prerequisites carefully.
5. Beginning in 2008-2009, BIOCHEM 2B03 and 2BB3 will no longer be available to Honours Life Science students.
6. Students who entered the program prior to September 2007, are restricted to a maximum of 36 units of Level II, III or IV Psychology (maximum 12 units per Level) toward their elective.

LIFE SCIENCE COURSE LIST
BIOCHEM 2B03, 2BB3, 2C03, 2EE3, 3D03, 3G03, 3H03, 3N03, 4C03, 4E03, 4K03, 4Q03; Levels II, III, IV Biology courses (except BIOLOGY 3Q03, 3Q03); HTH SCI 303, 3K03, 4I03; MOL BIOL 4H03; all Levels II, III, IV Psychology courses (excluding PSYCH 2I03, 2S03, 3PP3, 3SS3); SCIENCE 4A03, 4B06, 4C09

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units from Level II courses from Life Science Course List
6 units from Faculty of Science courses excluding the Life Science Course List
12 units Electives, excluding Biology and Psychology (See Notes 3 and 6 above.)

LEVEL III: 30 UNITS
12 units from Level III, IV courses from Life Science Course List
3 units from Faculty of Science courses excluding the Life Science Course List
15 units Electives, excluding Biology and Psychology (See Note 6 above.)

LEVEL IV: 30 UNITS
18 units from Levels II, III, IV courses from Life Science Course List of which at least 12 units must be Levels III, IV
6 units from Faculty of Science courses excluding the Life Science Course List
6 units Electives, excluding Biology and Psychology

Honours Molecular Biology

PROGRAM OVERVIEW
Honours Molecular Biology is a research-intensive program that focuses on laboratory research and communication skills, preparing students for graduate studies or careers in industry or academic research laboratories. Jointly offered by the Departments of Biology, Biochemistry and Biomedical Sciences and Pathology and Molecular Medicine to provide students with a broad view and understanding of biological processes from a molecular perspective. Students will develop knowledge and understanding of the structure, interaction and function of biomolecules and the molecular basis of cellular and organismal biology.

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units BIOCHEM 2B03, 2BB3, with an average of at least 6.0
6 units CHEM 1A03, 1AA3
3 units MATH 1A03
3 units PHYSICS 1B03
3 units STATS 1CC3
3 units from Science I Course List
A grade of at least C+ in three of CHEM 1A03, 1AA3, MATH 1A03, STATS 1CC3 is required.

B.Sc. in Life Science
(Includes Biochemistry, Biology, and Psychology)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
3 units MATH 1A03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
6 units from BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3
12 units from Science I Course List with an average of at least 3.0 in six of these units (See Note 1 below.)

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
3 units MATH 1A03
3 units from MATH 1AA3, 1B03, 1D03, STATS 1CC3
9 units from BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3 with an average of at least 4.0
9 units from Science I Course List (See Note 1 below.)

NOTES
1. BIOLOGY 1A03, 1AA3, PSYCH 1A03, 1AA3 must be completed by the end of Level II.
2. Students who intend to complete Biochemistry courses or who wish to be eligible for a wider selection of Biology and Psychology courses must complete a total of 18 units as follows: BIOLOGY 1A03, 1AA3, CHEM 1A03, 1AA3, PSYCH 1A03, 1AA3.
3. Registration in the B.Sc. Life Science program does not guarantee access to all courses. Some courses have program restrictions and students are responsible to read course prerequisites carefully.

LIFE SCIENCE COURSE LIST
BIOCHEM 2E03, 3D03, 3G03, 3H03, 3N03; all Levels II, III Biology courses (except BIOLOGY 3Q03, 3Q03); CHEM 2E03, 2O03, 3O03; all Levels II, III Psychology courses; STATS 2MA3

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units from Level II courses from Life Science Course List
6 units from Faculty of Science courses excluding Life Science Course List (See Notes 1 and 2 above.)
12 units Electives, excluding Biology and Psychology

LEVEL III: 30 UNITS
12 units from Level III courses from Life Science Course List
3 units from Faculty of Science courses excluding the Life Science Course List
15 units Electives, excluding Biology and Psychology
NOTES
1. This program is administered within the Faculty of Science through a Committee of Instruction and also draws on the Departments of Biology, Biochemistry and Biomedical Sciences and Pathology and Molecular Medicine.
2. Information may be obtained through the Program Administrators in Life Sciences Building, Room 118 or Health Sciences Centre, Room 4H43 who can refer students to the appropriate faculty counsellor.
3. A Minor in Biochemistry, Biology, or Chemistry is not permitted in the Honours Molecular Biology program.
4. Students who do not meet all of the requirements of the program may apply to transfer to Honours Biology or Honours Biochemistry.
5. BIOLOGY 2A03, 2D03, CHEM 2N03, 2R03, ORIGINS 2FF3 are recommended electives in Level II.
6. MOL BIOL 3I03 is strongly recommended as an elective in Level III.

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
24 units BIOCHEM 2B03, 2B23, BIOLOGY 2C03, CHEM 2A03, 2B33, MOL BIOL 2B03, 2L06
6 units Electives (See Note 5 above.)

LEVEL III: 30 UNITS
18 units BIOCHEM 3D03, BIOLOGY 2EE3, 3D03, 3S03, MOL BIOL 3A03, 3V03
6 units from BIOLOGY 3H03, 3H33, 3I03, 3M03
6 units Electives (See Note 6 above.)

LEVEL IV: 30 UNITS
15 units BIOCHEM 4E03, MOL BIOL 4A03, 4R09
9 units from BIOCHEM 4E03, 4H03, 4N03, 4Q03, BIOLOGY 4B03, 4E03, 4P03, 4PP3, 4R03, 4T03, 4V03, HTH SCI 4I13, MOL BIOL 4H03, 4J03
6 units Electives

ORIGINS INSTITUTE
The Origins Institute is an intellectual enterprise that promotes, maintains, and strengthens interdisciplinary collaboration among researchers who are interested in answering scientific questions concerning six origins themes:
- space-time
- elements
- structure in the cosmos
- life
- species and biodiversity
- humanity

The Origins Research Specialization curriculum is designed to introduce natural science to students through these themes. Students graduating from the specialization will possess comprehensive, multifaceted knowledge about the natural world.

NOTE
The Origins Research Specialization curriculum must be taken in conjunction with the Honours program in Biochemistry, Biology, Chemistry, Mathematics and Statistics, Physics or Psychology. It may be taken in conjunction with the Honours Arts and Science program. Students seeking admission to the specialization must choose a program from the list above and subsequently complete the requirements for that Honours program and 27 units of ORIGINS courses, as specified below.

Origins Research Specialization
Enrolment in this specialization is limited. Selection is based partially on academic achievement and requires completion of any Level I program with a Cumulative Average of at least 6.0, and the completion of admission requirements for an appropriate Honours program (see Note above). In addition, students will be required to complete a supplementary application.

NOTES
1. Information about the specialization and the admission and selection procedures may be accessed at the Origins Institute website at http://origins.mcmaster.ca or by contacting the Academic Director (Jon Stone, Life Sciences Building, Room 327, 905-525-9140 email jstoner@mcmaster.ca. Students must apply for their Level II Honours program with the Origins Research Specialization using the Application for Admission to Level II on SOLAR (Student On-line Academic Registration). See Admission to Level II Programs in this section in the Calendar.
2. Students must refer to the description for the Honours program that they seek to combine with the Origins Specialization for specific admission and program requirements.
3. ORIGINS 2B03, 2FF3 and 2S03 must be completed upon completion of Level III.
4. Students may satisfy all requirements for an appropriate Honours program and the Origins Research Specialization. Unless stated in the Undergraduate Calendar, students should consult with program administrators and the Associate Director for the Origins Institute to devise a curriculum.

COURSE LIST
ORIGINS 3A03, 3B03, 3C03, 3D03, 3E03, 3F03
27 units total (Levels II to IV)
9 units ORIGINS 2B03, 2FF3, 2S03 (See Note 3 above.)
6 units from Origins Course List
12 units ORIGINS 3S03, 4A09

Honours Physical Science
FORMERLY HONOURS SCIENCE (PHYSICAL SCIENCE)
(Includes Chemistry, Materials Science and Physics)

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 5.0 including:
6 units MATH 1A03, 1A3
6 units from CHEM 1A03, 1AA3, PHYSICS 1B03, 1BA3, 1BB3
12 units from Science I Course List
A grade of at least C+ in one of CHEM 1AA3, PHYSICS 1BA3, 1BB3 is required.

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 6.0 including:
6 units MATH 1A03, 1A3
9 units from CHEM 1A03, 1AA3, PHYSICS 1B03, 1BA3, 1BB3
12 units from Science I Course List (See Note 2 below.)
An average of at least 6.0 in nine units from CHEM 1A03, 1AA3, PHYSICS 1B03, 1BA3, 1BB3 is required.

NOTES
1. For students who entered the program in September 2007 or prior, at each academic review after completion of Level I, a Cumulative Average of at least 6.0 is required to continue in the Honours Physical Science program.
2. Twelve units from CHEM 1A03, 1AA3, MATH 1A03, 1AA3, PHYSICS 1B03, 1BA3 (or 1BB3) must be completed by the end of Level II.
3. Students intending to take upper level Physics core courses should take MATH 1B03 (or 1D03) by the end of Level II.
4. MATLS 1M03 is recommended as an introduction to Materials Science.
5. Registration in the Honours Physical Science program does not guarantee access to all courses. Some courses have program restrictions and students are responsible to read course prerequisites carefully.

PHYSICAL SCIENCE COURSE LIST
All Levels II, III, IV Astronomy, Chemistry, Materials Science, Medical Physics, Physics courses; GEO 2Q03, 3Q03, 3V03; MATH 2A03, 2C03, 3C03, 3D03

REQUIREMENTS
120 units total (Levels I to IV), of which no more than 48 units may be Level I

LEVEL I
30 units (See Admission above.)
LEVEL II: 30 UNITS
12 units from Level II courses from Physical Science Course List
6 units from Faculty of Science courses excluding the Physical Science Course List
12 units Electives (See Notes 2 and 3 above.)

LEVEL III: 30 UNITS
12 units from Levels III, IV courses from Physical Science Course List
3 units from Faculty of Science courses excluding the Physical Science Course List
15 units Electives

LEVEL IV: 30 UNITS
18 units from Levels III, IV courses from Physical Science Course List of which at least 12 units must be Levels III, IV
6 units from Faculty of Science courses excluding the Physical Science Course List
6 units Electives

B.Sc. in Physical Science {1435}

ADMISSION
2007-2008 ONLY: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
6 units MATH 1A03, 1AA3
6 units from CHEM 1A03, 1AA3, PHYSICS 1B03, 1BA3, 1BB3
12 units from Science I Course List with an average of at least 4.0 in six units. (See Note 1 below.)

EFFECTIVE 2008-2009: Completion of any Level I program with a Cumulative Average of at least 3.5 including:
6 units MATH 1A03, 1AA3
9 units from CHEM 1A03, 1AA3, PHYSICS 1B03, 1BA3, 1BB3
with an average of at least 4.0, (See Note 1 below.)
9 units from Science I Course List (See Note 1 below.)

NOTES
1. Twelve units from CHEM 1A03, 1AA3, MATH 1AA3, PHYSICS 1B03, 1BA3, 1BB3 must be completed by the end of Level II.
2. Students are responsible for ensuring that prerequisites for anticipated courses for Level III are completed in Level II. As an aid in selecting appropriate courses for Level II, students should refer to the program requirements for the Core programs for Honours Chemistry, Honours Physics or Honours Materials Science.
3. Students should seek academic counselling to ensure that their choices are appropriate. For counselling, students should approach the Departments of Chemistry, Physics or Materials Science and Engineering.
4. Students proceeding in Physics must include PHYSICS 2B06 and MATH 2A03 and 2C03 in Level II.
5. Students intending to take upper level Physics courses should complete MATH 1B03 (or 1D03) by the end of Level II.
6. Registration in the B.Sc. Physical Science program does not guarantee access to all courses. Some courses have program restrictions and students are responsible to read course prerequisites carefully.

PHYSICAL SCIENCE COURSE LIST
Levels II, III Astronomy, Chemistry, Materials Science, Medical Physics and Physics courses; GEO 2Q03, 3Q03, 3V03; MATH 3C03, 3D03

REQUIREMENTS
90 units total (Levels I to III), of which no more than 42 units may be Level I

LEVEL I
30 units (See Admission above.)

LEVEL II: 30 UNITS
12 units from Level II courses from Physical Science Course List
6 units from Faculty of Science courses (See Note 1 above.)
12 units Electives

LEVEL III: 30 UNITS
12 units from Level III courses Physical Science Course List
3 units from Faculty of Science courses
15 units Electives

B.Sc. in Geoscience
(See School of Geography and Earth Sciences)

B.Sc. in Life Science
(See Interdisciplinary Programs)

B.Sc. in Mathematical Science
(See Department of Mathematics and Statistics)

B.Sc. in Physical Science
(See Interdisciplinary Programs)
Dean of Social Sciences
S. Elliott/M.A., Ph.D.
Associate Dean
S. Watt/M.S.W., D.S.W., R.S.W.
Assistant Dean (Studies)
E. Frank/M.A.
Manager, Experiential Education
Student Advisor
K. Cale/B.A.
S. Hunt/B.A.
E. Moore
W. Spencer/B.A.
Career Development Coordinator
Cristina DeSilvio/B.A.
Community Education Coordinator
Ruthanne Talbot/B.A.

The social sciences are concerned with the study of human activities and relationships and their social, political, economic, cultural and spatial contexts. Through the pre-industrial to the post-industrial eras, social scientists examine social, economic, cultural and political issues experienced by individuals, groups and societies as well as the interactions between people and their environments, both natural and built.

The Faculty offers a range of degree programs in Anthropology, Economics, Geography, Gerontology, Health Studies, Sociology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work and Sociology. In addition, there are various opportunities for students to link their academic goals with their career interests. These experiential education initiatives include, but are not limited to, inquiry, internships, academic placements, a career planning course, student project grants, and undergraduate volunteer opportunities.

Students are strongly advised to take advantage of the extensive advisory services provided by the Faculty. New students in particular should plan a program of study that will allow them a number of options for Level II.

The Faculty of Social Sciences encourages students to become engaged in a wide variety of learning opportunities. These experiences can enrich learning, open new fields of study, and build transferable skills that prepare you for further academic work and for a range of careers. However, you should note that some courses, and many important extra-curricular opportunities for students in the Faculty of Social Sciences, require students to have cleared police criminal checks which can be obtained through Hamilton-Wentworth Police Services. Additionally, students may be required to pass TB tests and have immunization for some contagious diseases. Costs related to these requirements are the responsibility of the student.

PROGRAMS AND DEGREES

A. Level I Programs

Social Sciences I

PROGRAM NOTE
Students should select courses based on their academic interests and anticipated Level II program of study. Elective courses may be taken from other faculties, where requisites are met.

COURSE LIST I
ANTHROP 1A03, 1B03, 1203
ECON 1B03, 1B03
GEO 1HS3, 1HU3
GERONTOL 1A03
HEALTHST 1A03
INQUIRY 1S03
LABR-SIT 1A03, 1C03
POL SCI 1G06
PSYCH 1A03, 1A03
RELIG ST 1B06, 1D06, 1E03, 1G03
SOC WORK 1A06
SOCIOL 1A06

REQUIREMENTS: 30 UNITS
12 units from Course List 1
18 units Electives, which may include courses from Course List 1

Kinesiology I

ENROLMENT IN THIS PROGRAM IS LIMITED.

PROGRAM NOTES
1. Application is made to the Kinesiology I Program.
2. The Department of Kinesiology offers two Honours program options beyond Level I. The Honours Bachelor of Kinesiology (Cons.B.Kin.) and the Honours Bachelor of Science (Hons. B.Sc.). Effective September 2008, the Department of Kinesiology intends to replace the existing Honours Bachelor of Science (Hons. B.Sc.) degree available to Kinesiology students with an Honours Bachelor of Science Kinesiology degree.
3. Effective 2007-2008, students who intend to register in the Honours B.Sc. program must successfully complete one of MATH 1A03, 1B03 or 1D03 by the end of Level II. STAT 1C03 or KINESIOL 3C03 and six units of electives selected from the Faculty of Science must be completed by the end of Level IV. (See Department of Kinesiology, in the Faculty of Science, section of this Calendar.)
4. Effective 2008-2009, students who intend to register in the B.Sc.Kinesiology program must complete MATH 1A03 or 1L3S by the end of Level II. Students without Grade 12 Calculus and Vectors U will be required to complete MATH 1F03 prior to completion of MATH 1A03 or 1L3S.
5. The Honours Bachelor of Kinesiology, the Honours Bachelor of Science, and the proposed Honours Bachelor of Science Kinesiology provide students the opportunity to complete course requirements for various professional degree programs. Students are strongly encouraged to seek advice in determining which program option is best suited for them.
6. Effective 2008-2009, upon completion of Kinesiology I, students who have achieved an average of at least 6.0 in KINESIOL 1A03, 1A03, 1A03, 1C03, 1E03, 1F03, 1G03 and whose C.A. is between 5.5 and 5.9 may register in Level II Honours Kinesiology but will be placed on program probation for one reviewing period. A student may be on program probation only once. Upon completion of Kinesiology I, students who have achieved an average of at least 6.0 in KINESIOL 1A03, 1A03, 1A03, 1C03, 1E03, 1F03, 1G03 and whose C.A. is between 5.5 and 5.9 may register in Level II Kinesiology General and, with permission, take Level II Kinesiology required courses. At their next review, such students must achieve a C.A. at least 6.0 to transfer to an Honours Kinesiology program.

Requirements: 30 Units (Effective 2007-2008)
18 units KINESIOL 1A03, 1A03, 1C03, 1E03, 1F03, 1G03
12 units Electives (See Note 3 above.)

Kinesiology II
B. Degree Programs

HONOURS PROGRAMS (HONOURS BACHELOR OF ARTS AND HONOURS BACHELOR OF KINESIOLOGY)

Honours Bachelor of Arts programs and the Honours Bachelor of Kinesiology degree program consist of a total of 120 units of work normally completed over four years. Honours programs provide a concentration in the particular field, as well as an extended time of study, and are normally a requirement for those who contemplate proceeding to graduate studies. Kinesiology students who successfully complete all requirements of the first three levels of an Honours Kinesiology degree may request permission of the Office of the Associate Dean of Social Sciences for transfer to graduate with a three-level Bachelor of Kinesiology degree.

Students enrolled in programs offered by the Faculty of Social Sciences, with the exception of Honours Psychology and the Honours Bachelor of Kinesiology, in addition to meeting the University requirements for an Honours degree (see the General Academic Regulations section in this Calendar) must also fulfill the following requirements prescribed by the Faculty:

- six units from the Faculty of Humanities (Students enrolled in Religious Studies programs are required to complete six units from the Faculty of Humanities.)
- Combined Honours Bachelor of Arts Programs: Subject to possible timetable restrictions, and provided that the student meets the requirements for entry into each of the relevant Honours programs, a student may combine work in any two departments and be graduated with a Combined Honours degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities, and with the Arts and Science Program. All Combined Honours programs must be approved by both Departments concerned as well as by the Office of the Associate Dean(s) of Studies. Students will normally complete approximately 36 units of work beyond Level I in each component of the program (normally 12 units per level in each subject). The Honours B.Kin. degree is not available in combination with another subject.
- Minor: A Minor is an option available to students enrolled in a four- or five-level program, normally completed over four or five years. Normally students must complete a minimum of 24 units in the Minor subject. Students are responsible for ensuring that the courses taken meet the requirements for a Minor. Students who have the necessary requirements may apply for recognition of that Minor when they graduate. If granted, this recognition will be recorded on the student's transcript. For further information see Minors in the General Academic Regulations section of this Calendar.
- Combined B.A./B.S.W.: The School of Social Work offers a Combined B.A./B.S.W. program of studies leading to a B.A. and a B.S.W. degree. (See the program description in this section.)

The B.S.W. degree may be attained separately as a subsequent degree by those students who have already received one or more undergraduate degrees.

Bachelor of Arts Programs: B.A. programs consist of a total of 90 units of work, normally completed over three years. Three-level Combined Bachelor's degree programs are available only in Indigenous Studies and Another Subject. The other subject may be from the Faculty of Social Sciences or the Faculty of Humanities. These programs may also be combined with the B.S.W. as a four-level program.

Internship Options: Internships allow students to explore careers, to develop employability skills and to make important contacts for job searches after graduation. The Faculty of Social Sciences offers both part-time and full-time, non-credit, paid work opportunities of four, eight, or 12 months duration. Part-time and summer internships are open to all students and provide valuable workplace experience without extending their degree. Full-time internships of eight months or more, require registration and there is a nominal administrative fee. Only those students who have successfully completed all of their Level I program requirements and SOC SCI 2E0L may apply for posted opportunities. Internships must be undertaken before a student has completed all requirements for the degree. A brief note describing the internship is placed on the student’s transcript upon receipt of a job report from the student and a performance evaluation by the employer.

Further details of internship options may be obtained from:

Internship Coordinator,
Kenneth Taylor Hall, Room 102
(905) 525-9140, extension 23228
email: exp.ed@mcmaster.ca

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY

You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES

All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or Faculties. All students are encouraged to register as soon as MUGSI/SOLAR is available to them.

Students enrolled in a program in the Faculty of Social Sciences, in addition to meeting the Academic Regulations of the University, shall be subject to the following regulations of the Faculty of Social Sciences.

ADMISSION TO LEVEL II PROGRAMS

Any student seeking admission to a Level II program in the Faculty of Social Sciences, with the exception of Combined B.A./B.S.W. programs, for the following Fall/Winter session must submit an Application for Admission to Level II through MUGSI by April 1. The application allows students to rank four program choices. Students will be notified of their eligibility for the Level II programs to which they have applied on their grade report in June.

TRANSFER TO THE FACULTY OF SOCIAL SCIENCES

Students from other Faculties are able to transfer to degree programs offered by the Faculty of Social Sciences provided they have obtained a Cumulative Average of at least 3.5 and have completed the necessary admission requirements.

Students who do not meet these requirements must consult with the Office of the Associate Dean. Requests for transfer will be considered at the same time as applications for reinstatement (see below).

TRANSFER/APPLICATION TO KINESIOLOGY I

Any student seeking transfer/admission to Kinesiology I for the following Fall/Winter session must submit an Application for Admission through MUGSI by April 1. The application allows students to rank four program choices. Students will be notified of their eligibility for transfer to Kinesiology I on their grade reports in June.

A limited number of exceptionally qualified students are admitted each year. To be considered, applicants must have an average of at least 6.0 (A) on 24 units of university work taken on a full-time basis. McMaster students interested in transferring may contact the Undergraduate Administrative Assistant (Kinesiology) or the Office of the Associate Dean, Social Sciences. Students transferring from another university should see the Admission Requirements and Application Procedures sections of this Calendar. Effective September 2007, to be considered, applicants must complete a minimum of 24 units of university work taken on a full-time basis, including an average of at least 6.0 in either BIOLOGY 1A03 and 1AA3 or KINESIOLOGY 1Y03 and 1Y0S. Given the number of required units and prerequisites of Kinesiology courses, transfer students may not be able to complete the requirements in three additional years of study.

REINSTATEMENT

A student who may not continue at the University may apply for reinstatement. Application for reinstatement must be made to the Office of the Registrar using the Reinstatement Request Form by the application deadline for the session. See the Sessional Dates section of this Calendar. Reinstatement forms will be carefully reviewed and the evidence considered will include the student’s academic performance before and after admission to McMaster, a letter of explanation and documentation of any extenuating circumstances.

Reinstatement is not automatic or guaranteed. Decisions are normally made after June 30 for September entry. Effective September 1996, the Cumulative Average for students who are reinstated is reset to 0.0 on zero units. Credit is retained
for courses in which passing grades have been achieved. 

NOTE: If at a review after reinstatement the Cumulative Average falls below 3.5, the student will be required to withdraw from the University for a period of at least 12 months.

Former Kinesiology students will be considered for reinstatement to Kinesiology upon completion of a minimum of 24 units of university work taken on a full-time basis in a non-Kinesiology program with a minimum average of 7.0 (B-). Application forms are available from the Office of the Associate Dean or the Department of Kinesiology. The application deadline is April 30 for September entry. Reinstatement is not guaranteed.

DEADLINES
The Faculty of Social Sciences will not consider applications for admission, admission to a second degree or continuing studies, registration, or dropping and adding of courses after the deadlines stated in this Calendar under Sessional Dates and Application Procedures, unless written documentation is provided showing good cause, as determined by the Faculty.

HUMANITIES/RELIGIOUS STUDIES REQUIREMENT
Students registered in the Faculty of Social Sciences, except for those in Honours Kinesiology, Honours Psychology and those completing a B.A. with a B.S.W., are required to complete six units of courses chosen from the Faculty of Humanities and/or the Department of Religious Studies.

Students enrolled in Religious Studies programs are required to complete six units from the Faculty of Humanities.

Students in the B.A. Psychology programs should note the additional Humanities or Science requirements.

ACADEMIC ADVISING
The aim of academic advising is to help students tailor a program of studies to fit their interests. Advising also involves reviewing these interests from time to time to accommodate changing plans, needs and academic performance.

Advising is available throughout the year from the Office of the Associate Dean of Social Sciences and the departments or academic units in the Faculty of Social Sciences. It is strongly recommended that students consult with a Departmental Undergraduate Advisor during March in conjunction with the Level II program application.

AWARDS
For conditions and terms of awards for full-time and part-time students, please refer to the Undergraduate Academic Awards section of this Calendar.

OVERLOAD
Normally students may not register in more than 30 units during the Fall/Winter Session (36 units for students in a B.A./B.S.W. program). In the following circumstances an overload of up to six units may be taken:
1. if a student has a Sessional Average of at least 7.0 in the immediately preceding review period.
2. if the student is registered in the final level of his/her program.

Students wishing to register in more than 12 units during the Spring/Summer Session, or more than six units in either term of that Session may do so only with the permission of the Office of the Associate Dean, Social Sciences.

WITHDRAWAL
Students who wish to withdraw from the University may cancel courses on SOLAR and must surrender their McMaster Identification Card validation sticker to Financial Services Office to ensure the processing of any fee refunds. Students who fail to withdraw formally from any course(s) by the stated deadlines will remain registered whether or not they attend classes and will be assigned a grade.

LETTER OF PERMISSION
Students in good academic standing who wish to attend another university to take courses for credit toward a McMaster degree must first request a Letter of Permission from the Office of the Associate Dean. Students should take note of any conditions on the Letter of Permission that might apply. Including the requirement of a grade of at least C- for transfer credit. Courses taken at another university cannot be used to satisfy the university’s minimum residence requirements, will not be included in the calculation of the McMaster average, and therefore cannot be used to raise standing. The transcript designations will read COM, indicating complete, when a grade of C- or better is attained.

STUDENT EXCHANGE PROGRAMS
McMaster University has agreements with institutions in Canada and abroad, including Australia, France, and the United Kingdom, to provide students the opportunity to participate in an exchange program for one year or a term. Exchanges allow students to gain a varied perspective on their course of study and enhance their professional and personal goals. In addition, exchange programs offer students the most inexpensive means of studying abroad, as students participating in these exchanges avoid the foreign student fees by paying fees to McMaster.

All students must have completed at least one year of continuous study and be in good standing to be eligible to participate in an exchange. In most cases, students who participate in exchange programs go abroad for the third Level of an Honours program.

Students interested in any exchange program must discuss their plans with their department and with the Office of the Associate Dean if they intend to transfer credit to their McMaster degree program. Such discussions should begin about one year before they plan to enrol elsewhere.

For further information please see international Study in the General Academic Regulations section in this Calendar. Information concerning student exchanges can also be found in the Academic Facilities, Student Services and Organizations section of this Calendar under the heading Centre for Student Development, International Student Services.

Acceptance to the Ontario and University-wide Exchange Programs is by recommendation. Application forms can be obtained from:
Centre for Student Development
Student Exchanges
Gilmour Hall, Room 104
Telephone: (905) 525-9140, extension 24748

DEPARTMENT OF ANTHROPOLOGY

WEB ADDRESS: http://www.socsci.mcmaster.ca/anthro/

Honours Arts & Science and Anthropology
(B.A., Arts.Sc.; See Arts & Science Program)

ANTHROPOLOGY SUBFIELDS
(Applicable to all Anthropology programs)

Anthropology includes the four major subfields of Social/Cultural Anthropology, Physical/Biological Anthropology, Archaeology, and Linguistics. It should be noted that each subfield has its own sequence of courses and prerequisites. (See the Course Listings section in this Calendar.)

CULTURAL/SOCIAL ANTHROPOLOGY
ANTHROP 2B03, 2F03, 2G03, 2G43, 2H03, 2P03, 2R03, 2X03, 2XX3, 2Z03, 3E03, 3G03, 3L03, 3P03, 3Q03, 3RR3, 3T03, 3V03, 3Y03, 3Z03, 4AE3, 4D03, 4I03, 4N03, 4Q03

PHYSICAL/BIOLOGICAL ANTHROPOLOGY
ANTHROP 2A03, 2D03, 2DD3, 2E03, 2FA3, 2FF3, 2U03, 3C03, 3H03, 3N03, 3PP3, 3R03, 4H03, 4J03, 4J13, 4R03, 4S03 (Relevant courses are also offered by Biology and Kinesiology)

ARCHAEOLOGY
ANTHROP 2C03, 2P03, 2PA3, 2V03, 2W03, 3A33, 3C3A, 3CC6, 3DD3, 3EE3, 3K03, 3X03, 4E03, 4EE3, 4F03, 4HF3, 4I03, 4U03 (Relevant courses are also offered by the School of Geography and Earth Sciences, History and Classics.)

LINGUISTICS
ANTHROP 2LC3, 2LL3, 2LP3, 3A03, 3J03, 3L13, 3M03, 4LB3, 4LC3, 4XX3

OTHER COURSES
- Courses not distinguished by subfield include the independent study course ANTHROP 3IS3, topic courses ANTHROP 3WV3, 4G03, 4GG3, as well as the seminar courses ANTHROP 4B03 and 4B63.

In planning a program, it is important for students to take note of the prerequisites of certain upper-level courses.
Honours Anthropology (2010)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 8.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1B03, 1Z03.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units ANTHROP 2E03, 2F03, 2PA3, 3L03
3 units from ANTHROP 2D03, 2DD3, 2FF3, 2Z03, 3H03, 3K03, 3P03
3 units ANTHROP 4I03
9 units Level IV Anthropology
24 units Levels II, III or IV Anthropology
3 units from SOC SCI 2J03 or STATS 1CC3*
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

*If requirement completed in Level I, these units will be taken as electives.

Combined Honours in Anthropology and Another Subject

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 8.0 including an average of at least 7.0 in six units from ANTHROP 1A03, 1B03, 1Z03. Satisfaction of admission requirements for the Honours program in the other B.A. subject.

NOTE
Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with the Arts and Science Program.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units ANTHROP 2E03, 2F03, 2PA3, 3L03
3 units from ANTHROP 2D03, 2DD3, 2FF3, 2Z03, 3H03, 3K03, 3P03
3 units ANTHROP 4I03
9 units Level IV Anthropology
15 units Levels II, III or IV Anthropology
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.
15 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Anthropology with Arts and Science, or with a Humanities subject, are exempt from this requirement.

*If requirement completed in Level I, these units will be taken as electives.

B.A. in Anthropology (1010)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from ANTHROP 1A03, 1B03, 1Z03.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
6 units from ANTHROP 2E03, 2F03, 2PA3
18 units Levels II, III or IV Anthropology
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Minor in Anthropology

REQUIREMENTS
24 units total
6 units from ANTHROP 1A03, 1B03, 1Z03
3 units from ANTHROP 2E03, 2F03, 2PA3
15 units Levels II, III or IV Anthropology

INTERDISCIPLINARY MINOR
IN ARCHAEOLOGY

See the Interdisciplinary Minors and Thematic Areas section of this Calendar.

DEPARTMENT OF ECONOMICS

WEB ADDRESS: http://www.mcmaster.ca/economics/

Honours Arts & Science and Economics (B.Arts.Sc.; See Arts & Science Program)

Honours Economics (Specialist Option) (2151)

The Honours Economics (Specialist Option) is being phased out. Registration in Level IV will be last available in September 2007.

NOTES
1. COMMERCE 2FA3 may be substituted for ECON 2103.
2. Students with prior credit in a course equivalent to ECON 2B03 are exempt from this requirement. See ECON 2B03 in the Course Listings section of this Calendar for equivalences.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program
21 units ECON 2G03, 2G03, 2H03, 2H13, 3F03, 3G03, 4A03
6 units from ECON 3A03, 3A03, 4T03, 4T03
24 units Levels II, III, IV Economics with more than six units from ECON 2A03, 2C03, 2D03, 2F03, 2I03, 2I03, 2P03, 2T03 (See Notes 1 and 2 above.)
6 units ECON 2B03 and 3U03 (See Note 2 above.)
3 units* from MATH 1A03 or 1M03
3 units** from STATS 1L03 (or Grade 12 Mathematics of Data Management U)
27 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. The number of units of Economics courses above Level I (excluding ECON 2B03 and 3U03) must not exceed 60.

*If requirement completed in Level I, these units will be taken as electives.
**If requirement completed in Level I or with Grade 12 U courses, these units will be taken as electives.

Honours Economics (1250)

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 8.0 including a grade of B- in ECON 1A06 or an average of at least 7.0 in ECON 1B03 and 1BB3. Credit in Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03 or equivalent.

NOTES
1. COMMERCE 2FA3 may be substituted for ECON 2103.
2. Students with prior credit in a course equivalent to ECON 2B03 are exempt from this requirement. See ECON 2B03 in the Course Listings section of this Calendar for equivalences.
3. Many graduate programs in Economics require ECON 3G03, 4T03 and 4T03. Students interested in an M.A. in Economics are advised to consult a departmental advisor for more detailed information.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
18 units ECON 2G03, 2G03, 2H03, 2H13, 3F03, 3G03, 4A03
ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A03 or an average of at least 7.0 in ECON 1B03 and 1B33. Credit in Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03 or equivalent. Satisfaction of admission requirements for the Honours program in the other B.A. subject.

NOTES

1. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with the Arts and Science Program.

2. One of Grade 12 Mathematics of Data Management U, STATS 1A03 or 1103 is a prerequisite for the research methods courses offered by the Department of Economics.

3. Students registered in Combined Honours programs within the Faculty of Social Sciences who wish to satisfy the Inquiry and Honours Seminar requirements specified by the other department may replace ECON 3F03 and 4A03 with another six units Economics.

4. COMMERCE 2FA3 may be substituted for ECON 2103.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

30 units

from the Level I program completed prior to admission to the program. (See Admission above.)

18 units

ECON 2A03, 2G33, 2H03, 2H13, 3F03, 4A03 (See Note 3 above.)

15 units

Levels II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2G03, 2J03, 2N03, 2P03, 2T03 (See Note 4 above.)

36 units

courses specified for the other subject

36 units

courses specified for the other subject

3 units

from MATH 1A03 or 1M03

3 units

from STATS 1A03 (or Grade 12 Mathematics of Data Management U)

9 units

electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Economics with Arts & Science, or with a Humanities subject, are exempt from this requirement.

If requirement completed in Level I, these units will be taken as electives.

If requirement completed in Level I or with Grade 12 U courses, these units will be taken as electives.

Honours Economics and Computer Science

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0, including an average of at least 7.0 in ECON 1B03 and 1B33 (or a grade of at least B- in ECON 1A08), and a weighted average of at least 7.0 in ECON 1B03, 1B33 (or 1A06), COMP SCI 1MD3 and 1FC3; MATH 1A03, 1A33 and 1B03. MATH 1B03 may be postponed until Level II.

NOTES

1. COMMERCE 2FA3 may be substituted for ECON 2103.

2. Students with prior credit in a course equivalent to ECON 2B03 are exempt from this requirement. See ECON 2B03 in the Course Listings section of this Calendar for equivalences.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

30 units

from the Level I program completed prior to admission to the program. (See Admission above.)

18 units

ECON 2G33, 2H33, 2H13, 3F03, 4A03

18 units

Levels II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2G03, 2J03, 2N03, 2P03, 2T03

18 units

COMP SCI 2AC3, 2ME3, 2MF3, 2MJ3, 2003, 2SC3

9 units

from COMP SCI 3C3, 3DA3, 3DB3, 3IS3, 3HI3, 4HC3, 4WW3

3 units

Levels III or IV Computer Science except COMP SCI 4Z6F6

6-9 units

STATS 2D03 and either STATS 2MB3, or 3D03 and 3D03 (or 3D06); or ECON 2B03 and 3U03 (See Note 2 above.)

15-18 units

electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Honours Economics

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including a grade of B- in ECON 1A03 or 1X03, and a grade of at least 7.0 in ECON 1B03 and 1B33. Credit in Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03 or equivalent.

NOTES

1. COMMERCE 2FA3 may be substituted for ECON 2103.

2. Students with prior credit in a course equivalent to ECON 2B03 are exempt from this requirement. See ECON 2B03 in the Course Listings section of this Calendar for equivalences.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

30 units

from the Level I program completed prior to admission to the program. (See Admission above.)

18 units

ECON 2G33, 2H33, 2H13, 3F03, 4A03

18 units

Levels II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2G03, 2J03, 2N03, 2P03, 2T03

18 units

COMP SCI 2AC3, 2ME3, 2MF3, 2MJ3, 2003, 2SC3

9 units

from COMP SCI 3C3, 3DA3, 3DB3, 3IS3, 3HI3, 4HC3, 4WW3

3 units

Levels III or IV Computer Science except COMP SCI 4Z6F6

6-9 units

STATS 2D03 and either STATS 2MB3, or 3D03 and 3D03 (or 3D06); or ECON 2B03 and 3U03 (See Note 2 above.)

15-18 units

electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

B.A. in Economics

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 3.5 and a grade of at least C- in ECON 1A06 or an average of at least 4.0 in ECON 1B03 and 1B33. Credit in Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03 or equivalent.

NOTES

1. COMMERCE 2FA3 may be substituted for ECON 2103.

2. Students with prior credit in a course equivalent to ECON 2B03 are exempt from this requirement. See ECON 2B03 in the Course Listings section of this Calendar for equivalences.
REQUIREMENTS
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
15 units from ECON 2G03, 2H03 (See Note 2 above.)
3 units from MATH 1A03 or 1M03
3 units** from STAT 1L03 (or Grade 12 Mathematics of Data Management U)
30 units Electives. If not already completed, a minimum of six units must be from the Faculty of Humanities and/ or the Department of Religious Studies. The number of units of Economics courses above Level I (excluding ECON 2B03 and 3U03) must not exceed 36.

*If requirement completed in Level I, these units will be taken as electives.
**If requirement completed in Level I or with Grade 12 U courses, these units will be taken as electives.

Minor in Economics
NOTES
1. Although ECON 2G03 and 2H03 are not required for the Minor in Economics, most Level III and IV Economics courses have at least one of these courses as a prerequisite.
2. COMMERCE 2FA3 may be substituted for ECON 2103.
3. COMMERCE 2Q03 (or equivalent statistics course) may be substituted for ECON 2B03.

REQUIREMENTS
24 units total
8 units ECON 1B03 and 1BB3 (or ECON 1A06)
18 units Levels II, III, IV Economics with no more than six units from ECON 2A03, 2C03, 2D03, 2E03, 2F03, 2I03, 2J03, 2N03, 2P03, 2T03. (See Notes above.)

SCHOOL OF GEOGRAPHY AND EARTH SCIENCES

WEB ADDRESS: http://www.science.mcmaster.ca/geo/

Honours Arts & Science and Geography
(B.Arts.Sc.; See Arts & Science Program)

Honours Geography {2240}

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including an average of at least 6.0 in six units from GEO 1HS3, 1HU3, ENVR SC 1A03, 1BO3, 1G03.

NOTES
1. One of SOC SCI 2J03 or STAT 1CC3 must be completed by the end of 60 units.
2. Students are encouraged to check prerequisites of upper-level Geo courses and to speak with an Undergraduate Advisor in the School of Geography and Earth Sciences regarding course selection.
3. Students who entered the program prior to September 2001, need only complete 12 units of Level IV Geo, including one of GEO 4CC3 or 4R06 and will increase their electives by three units.
4. Upon completion of 60 units, including satisfactory completion of admission requirements, Honours Geography students may choose to register in one of the following specializations:
   - Environment and Health
   - Geographic Information Systems (G.I.S.) and Spatial Analysis
   - Urban Social Geography
   These specializations are intended to provide students with opportunities to select courses from recognized areas of geographic inquiry and to acquire knowledge and skills for employment and/or graduate study in these areas. Program codes and requirements for Levels III and IV of each specialization are outlined below. Honours Geography students are not required to complete a specialization. Those who decide not to specialize will remain registered in the Honours Geography program.

5. Students interested in completing a specialization should review admission requirements below.
6. A Minor in Environmental Studies is not permitted for students who are registered in the Honours Geography/Environment and Health Specialization.
7. A Minor in Geographic Information Systems (G.I.S.) is not permitted for students who are registered in the Honours Geography/G.I.S. and Spatial Analysis Specialization Program.
8. Students considering the Geographic Information Systems (G.I.S.) and Spatial Analysis specialization are strongly encouraged to complete MATH 1K03 if a Grade 12 Mathematics U was not completed.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I

LEVEL I: 30 UNITS
30 units from the Level I program completed prior to admission to the program. (See Admission above.)

LEVEL II: 30 UNITS
3 units GEO 2103
3 units GEO 2E03, 2H03
12 units from Level II or III Geo, excluding GEO 2GG3, 2HC3, 2HG3, 2HU3, 2MM3, 2VV3, 3AA3, 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3 (See Note 5 above.)
9 units from SOCI 2I03 or STAT 1CC3 (See Note 1 above.)
3 units Electives.

LEVELS III AND IV: 60 UNITS
(See below for the Level III and IV requirements for Specializations)
3 units GEO 3R03
3 units from GEO 3FE3, 3HF3
15 units Level IV Geo, including one of GEO 4CC3 or 4R06 (See Note 3 above.)
12 units Level III Geo, excluding GEO 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3
27 units Electives. If not already completed, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

G.I.S. and Spatial Analysis Specialization {2240870}

ADMISSION
Completion of Level II Honours Geography, including GEO 2A03. (See Note 6 above.)

REQUIREMENTS
LEVELS III AND IV: 60 UNITS
3 units GEO 3R03
3 units from GEO 3FE3, 3HF3
12 units from GEO 3A03, 3HE3, 3HG3, 3HJ3, 3HU3
9 units GEO 4A03, 4HH3, 4HY3
6 units Level IV Geo, including one of GEO 4CC3 or 4R06
27 units Electives. If not already completed, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Environment and Health Specialization {2240868}
Urban Social

Geography Specialization

ADMISSION
Completion of a Level II Honours Geography program, including one of GEO 2H3, 2HD3, 2HY3.

REQUIREMENTS
LEVELS III AND IV: 60 UNITS
3 units GEO 3R03
3 units from GEO 3FE3, 3HF3
12 units from GEO 2H3, 2HD3, 2HY3 (if not completed in Level II), 3HD3, 3HJ3, 3HJ3, 3HZ3
9 units GEO 4HT3, 4HY3, 4HZ3
6 units Level IV Geo, including one of GEO 4CC3 or 4R06
27 units Electives. If not already completed, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Honours Geography

and Environmental Studies

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including an average of at least 5.0 in six units from GEO 1H3, 1HU3, ENVIR SC 1A03, 1B03, 1G03. (See Note 1 below.)

NOTES
1. GEO 1H3, 1HU3 and one of ENVIR SC 1A03, 1B03, 1G03 must be completed by the end of 60 units.
2. One of SOC SCI 2J03 or STATS 1C3 must be completed by the end of 60 units.
3. Students are encouraged to check prerequisites of upper-level Geo courses and to speak with an Undergraduate Advisor in the School of Geography and Earth Sciences regarding course selection.
4. Students who entered the program prior to September 2001 may substitute three units of Level III Geo or GEO 2103.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I, 30 units from the Level I program completed prior to admission to the program. (See Admission above.)
6 units GEO 2103, 3R03
3 units from GEO 2E03, 2HR3 (See Note 4 above.)
3 units from GEO 3FE3, 3HF3
6 units Level III Geo, excluding GEO 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3
9 units Levels II or III Geo, excluding GEO 2GG3, 2HC3, 2HJ3, 2HU3, 2MM3, 2WW3, 3AA3, 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3
15 units Level IV Geo, including one of GEO 4CC3 or 4R06 (See Note 3 above.)

12-15 units Level IV Geo and the thesis or honors seminar specified by the Department for the other subject. (See Note 3 above.)
36 units courses specified for the other subject
3 units from SOC SCI 2J03 or STATS 1C3*
9-12 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

B.A. in Geography

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0, including an average of at least 4.0 in six units from GEO 1H3, 1HU3, ENVIR SC 1A03, 1B03, 1G03.

NOTE
Students who entered this program prior to September 2007 may use GEO 3AA3 as three units of Level III Geo.

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I, 30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units Level II Geo with no more than six units from GEO 2GG3, 2HC3, 2HJ3, 2HU3, 2MM3, 2WW3
12 units Level III Geo with no more than six units from GEO 3AA3, 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Minor in Geography

NOTE
Students who entered this program prior to September 2007 may use GEO 3AA3 as three units of Level III Geo.

REQUIREMENTS
24 units total
6 units from ENVIR SC 1A03, 1B03, 1G03, GEO 1HS3, 1HU3
18 units Levels II, III or IV Geo, including at least six units of Levels III or IV. No more than six units may be from GEO 2GG3, 2HC3, 2HJ3, 2HU3, 2MM3, 2WW3, 3AA3, 3CC3, 3DD3, 3HJ3, 3HR3, 3NN3

Minor in Environmental Studies

NOTES
1. The Minor in Environmental Studies is not permitted for students who are registered in the Honours Geography/Environmental and Health Specialization Program.
2. At least nine of the 12 Course List units must be selected from outside the student's own department or school.

3. At least six Course List units must be outside of Geo.

**Course List**

**Anthrop** 2A3, 2F03, 2H03, 2U03, 3C03, 3Z03, 4A2, 4P03

**Biology** 2D03, 2E03, 2F03, 3S03, 3T03, 4Y03

**Econ** 2J03, 3W03

**Geo** 2A03, 2G03, 2HG3, 2W03, 3A03, 3C03, 3C03, 3E03, 3H03, 4A03, 4H03, 4HY3

**Healthst** 4E03

**Philos** 2G03, 2N03

**Pol Sci** 2E06, 3Z03, 3ZZ3, 4D06

**Relig** 2W03

**Requirements**

24 units total

3 units from GEO 1H3, 1H03

3 units from ENVIR SC 1A03, 1B03, 1G03

6 units from GEO 2A03, 3A03, 4A03

12 units from Course List including at least six units from Levels III or IV (See Notes 2 and 3 above.)

**Minor in Geographic Information Systems (G.I.S.)**

**Notes**

1. The Minor in Geographic Information Systems (G.I.S.) is not permitted for students who are registered in the Honours Geography/G.I.S. and Spatial Analysis Specialization Program.

2. Students registered in the Honours Geography (B.A.) or any Earth and Environmental Sciences (B.Sc.) program may use six units from GEO 1H3, 1H03, ENVIR SC 1A03, 1B03, 1G03; and GEO 2103 and 3Y03 toward both their program requirements and the G.I.S. Minor.

3. Progression to Level III courses is conditional upon achieving a grade of at least C+ in GEO 2103. Students who do not meet this requirement may not complete the Minor.

**Requirements**

24 units total

6 units from ENVIR SC 1A03, 1B03, 1G03, GEO 1H3, 1H03 (See Note 2 above.)

18 units GEO 2103, 3103, 3S03, 3Y03, 4L03, 4S03 (See Notes 2 and 3 above.)

**Certificate in G.I.S.**

**Geographic Information Systems**

For further information see the Certificate and Diploma Programs section of this Calendar.

**Department of Health, Aging and Society**

**Honours Arts & Science and Gerontology**

(B.A.,Sc.; See Arts & Science Program)

**Honours Arts & Science and Health Studies**

(B.A.,Sc.; See Arts & Science Program)

**Honours Gerontology**

2265

**Admission**

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 6.0 including a grade of at least B- in GERONTOL 1A03 or 1A06.

**Notes**

1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.

2. Students who have not taken GERONTOL 1A03 or 1A06 in Level I may be considered for admission to the program if they have an equivalent introductory gerontology course. Such students must consult the Chair regarding equivalency prior to applying.

3. Courses other than those listed in the Course List may be substituted with the prior permission of the Chair.

4. Students are strongly recommended to complete GERONTOL 2C03 and SOC SCI 2J03 (or another approved statistics course) by the end of Level II and to complete GERONTOL 3R03 by the end of Level III.

5. Students are strongly recommended to complete GERONTOL 2E03 prior to registration in GERONTOL 3B03.

**Course List**

**Anthrop** 3Z03, 3Z23

**Econ** 3D03, 3Q03, 3Z03

**Geo** 2HG3, 3H03

**Healthst** 2A03, 2C03, 2D03, 3AA3, 3CC3, 3D03, 3E03, 3H03, 3H03, 3H03, 3H03, 4H03, 3Y03, 4C03

**Hth Sci** 3Z03

**Kinesiol** 3F03, 3S03

**Philos** 2D03, 3C03

**Relig St** 2C03, 2R03, 2N03, 2W03

**Soc Work** 3C03, 4L03, 4R03

**Sociol** 3C03, 3G03, 3H03

or other designated and approved courses. (See Note 3 above.)

**Requirements**

120 units total (Levels I to IV), of which 48 units may be Level I

30 units from the Level I program completed prior to admission to the program. (See Admission above.)

18 units GERONTOL 2B03, 2D03, 3B03, 3D03, 4A06

3 units from the Level IV Gerontology

18 units Levels II, III or IV Gerontology or courses from Course List

6 units GERONTOL 2C03, 3R03 (See Note 4 above.)

3 units from SOC SCI 2J03, STATS 1C03 (See Note 4 above.)

42 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/ or the Department of Religious Studies.

*If requirement completed in Level I, these units will be taken as electives.

**Combined Honours in Gerontology and Another Subject**

**Admission**

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 6.0 including a grade of at least B- in GERONTOL 1A03 or 1A06 and satisfaction of admission requirements for the Honours B.A. program in the other subject.

**Notes**

1. Students enrolled prior to September 2003 in combined Honour B.A. in Gerontology, Health Studies and another subject should consult an academic advisor in the Office of the Associate Dean, Social Sciences for program requirements.

2. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.

3. Students who have not taken GERONTOL 1A03 or 1A06 in Level I may be considered for admission to the program if they have an equivalent introductory gerontology course. Such students must consult the Chair regarding equivalency prior to applying.

4. Courses other than those listed in the Course List may be substituted with the prior permission of the Chair.

5. Students are strongly recommended to complete GERONTOL 2C03 and SOC SCI 2J03 (or another approved statistics course) by the end of Level II and complete GERONTOL 3R03 by the end of Level III.

6. Students who meet the program prior to September 2003 or students who have permission of the Chair to complete the Research Methods course by the other component may replace GERONTOL 4A06 with six units of Levels II or IV Gerontology or courses from Course List. This substitution must be approved by the Chair.

7. Students are strongly recommended to complete GERONTOL 2E03 prior to registration in GERONTOL 3B03.

8. Students who entered the program prior to September 2003 or students who have permission of the Chair to complete the Research Methods course by the other component may replace GERONTOL 3R03 with a three unit elective.
ANTHROP 3Z03, 3ZZ3
ECON 3D03, 3Q03, 3Z03
GEO 2HG3, 3HH3
HEALTHST 2AA3, 2C03, 2D03, 3AA3, 3A03, 3CC3, 3D03, 3E03, 3H03, 3HH3, 3YY3, 4C03
HHT SCI 3B03
KINESIOL 3F03, 3SS3
PHILOS 2D03, 3C03
RELIG ST 2C03, 2M03, 2N03, 2WV3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 3G03, 3HH3
or other designated and approved courses. (See Note 4 above.)

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units GERONTOL 2B03, 2D03, 3B03, 3D03
6 units GERONTOL 4A06 or if available, a thesis in the other subject (See Note 6 above.)
3 units Level IV Gerontology
12 units Level II, III or IV Gerontology or courses from Course List 1 (See Note 4 above.)
36 units Courses as specified for the other subject
6 units GERONTOL 2C03, 3R03 (See Notes 5 and 8 above.)
3-6 units from SOC SCI 2J03, STATS 1CC3* (or GERONTOL 3G03), or in combined programs within the Faculty of Social Sciences, the Research Methods/Statistics requirement specified for the other subject.
9-12 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

*If requirement completed in Level I, these units will be taken as electives.

B.A. in Gerontology

ADMISSION

Enrollment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 3.5 including a grade of at least C- in GERONTOL 1A03 or 1A06.

NOTES

1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students who have not taken GERONTOL 1A03 or 1A06 in Level I may be considered for admission to the program if they have an equivalent introductory Gerontology course. Such students must consult their Chair regarding equivalency prior to applying.
3. Courses other than those listed in Course List may be substituted, with the prior permission of the Chair.
4. Students in the B.A. in Gerontology and Social Work program should consult with their Chair regarding GERONTOL 3B03 (the Gerontology Field Observation requirement) and SOC WORK 3D06.
5. Students are strongly recommended to complete GERONTOL 2EG3 prior to registration in GERONTOL 3B03.

COURSE LIST

ANTHROP 3Z03, 3ZZ3
ECON 3D03, 3Q03, 3Z03
GEO 2HG3, 3HH3
HEALTHST 2AA3, 2C03, 2D03, 3AA3, 3A03, 3CC3, 3D03, 3E03, 3H03, 3HH3, 3YY3
HHT SCI 3B03
KINESIOL 3F03, 3SS3
PHILOS 2D03, 3C03
RELIG ST 2C03, 2M03, 2N03, 2WV3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 3G03, 3HH3
or other designated and approved courses. (See Note 3 above.)

REQUIREMENTS

90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units GERONTOL 2B03, 2D03, 3B03, 3D03
3 units GERONTOL 2C03
9 units Level II, III or IV Gerontology or courses from Course List 1 (See Note 3 above.)
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Minor in Gerontology

ADMISSION

Enrollment in the Minor is limited. Selection is based on academic achievement but requires, as a minimum, completion of GERONTOL 1A03 with a minimum grade of B- and registration in a four- or five-level program. The department will admit a maximum of 10 students to the Minor in Gerontology each year.

NOTES

1. Application for admission (forms available from the Department of Health, Aging and Society) must be made to the Chair by April 30.
2. Students may not transfer from the Minor in Gerontology to another Gerontology program except by the normal application process.
3. Kinesiology students completing a Minor in Gerontology may substitute KINESIOL 4S33 for GERONTOL 2B03.
4. Students completing a Minor in Gerontology must contact the Department of Health, Aging and Society to request permission for their Fall/Winter Gerontology courses by May 31.

COURSE LIST

ANTHROP 3Z03, 3ZZ3
ECON 3D03, 3Q03, 3Z03
GEO 2HG3, 3HH3
GERONTOL 2E03, 2F03, 3H03, 3J03, 3K03, 3L03, 3M03, 3N03
HEALTHST 2AA3, 2C03, 2D03, 3AA3, 3CC3, 3D03, 3E03, 3H03, 3HH3, 3YY3, 4C03
HHT SCI 3B03
KINESIOL 3F03, 3SS3
PHILOS 2D03, 3C03
RELIG ST 2C03, 2M03, 2N03, 2WV3
SOC WORK 3C03, 4L03, 4R03
SOCIOI 3CC3, 3G03, 3HH3

REQUIREMENTS

24 units total
3 units GERONTOL 1A03
9 units GERONTOL 2B03, 2D03, 3D03 (See Note 3 above.)
12 units from Course List

Honours Health Studies

ADMISSION

Enrollment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 3.5 including a grade of at least B- in 3 units from HEALTHST 1A03, 1E03, 1S03.

NOTES

1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Courses other than those listed below in the Course List may be substituted, with the prior permission of the Chair.
3. Students who previously completed SCIENCE 2503 may use these units to fulfill Course List requirements.
4. Students who entered the program prior to September 2004 may use HEALTHST 3A03 for 3AA3.
5. Students who entered the program prior to September 2004 may replace HEALTHST 3G03 with three units of Level II, III or IV Health Studies.
6. Students who completed GERONTOL 2B03 or 3Q03, prior to September 2005, may use these units to fulfill Course List requirements.

COURSE LIST

(Students are responsible for ensuring that course prerequisites are fulfilled.)

ANTHROP 2A3N, 2U03, 3C03, 3Q03, 3Y03, 3Z03, 3ZZ3
ECON 3Z03
GEO 3HH3
GERONTOL 2F03, 3H03, 3K03, 3L03, 3N03
HHT SCI 2G03, 2J03
HISTORY 3V03
INDIG ST 3H03, 3H3
KINESIOL 3A03, 3SS3
PHILOS 2D03, 3C03
PSYCH 3B03, 3N03, 3NN3
RELG ST 2C03, 2M03, 2N03, 2WW3
SOC WORK 3C03, 3D03
SOCIOI 3G03, 3H3, 4G03
WOMEN ST 2H3

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
3 units from HEALTHST 2A03, 2A3
3 units HEALTHST 3A03 (See Note 4 above.)
9 units Levels II, III or IV Health Studies or GERONTOL 4I03, of which at least three units must be at Level IV
3 units HEALTHST 4A03
3 units from HEALTHST 4C03, 4D03
9 units from Course List (See Notes 3 and 6 above.)
36 units courses specified for the other subject
3 units HEALTHST 2B03 or an equivalent research methods course if required by the other subject (See Note 2 above.)
3 units HEALTHST 3G03 (See Note 5 above.)
3-6 units from SOC SCI 2J03 or STATS 1CC2* or an equivalent statistics course as prescribed by other Social Sciences programs
12-15 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/ or the Department of Religious Studies.
*If requirement completed in Level I, these units will be taken as electives.

Combined Honours in
Health Studies and Another Subject

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 6.0 including grades of at least B- in 3 units from HEALTHST 1A03, 1E03, 1S03 and satisfaction of admission requirements for the Honours B.A. program in the other subject.

NOTES
1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students are strongly encouraged to complete HEALTHST 2B03 to satisfy the Research Methods requirement of the degree those who choose to complete the Research Methods course as required by their other component, will replace HEALTHST 2B03 with three units of Level II, III or IV Health Studies.
3. Students who previously completed SCIENCE 2G03 may use these units to fulfill Course List requirements.
4. Students who entered the program prior to September 2004 may substitute HEALTHST 3A03 for 3A3.
5. Students who entered the program prior to September 2004 or students who have permission of the Chair to complete the Research Methods course as required by their other component will replace HEALTHST 3G03 with three units of Level II, III or IV Health Studies.
6. Students who completed GERONTOL 2B03 or 3Q03, prior to September 2005, may use these units to fulfill Course List requirements.

COURSE LIST
(Students are responsible for ensuring that course prerequisites are fulfilled.)

ANTHROP 2A03, 2FF3, 2U03, 3C03, 3Q03, 3Y03, 3Z03, 3Z3, 4S03
ECON 3Z03
GEO 3HH3
GERONTOL 2F03, 3H03, 3K03, 3L03, 3N03
HTH SCI 2G03, 2J03,
HISTORY 3V03
INDIG ST 3H03, 3H3
KINESIOL 3A03, 3SS3
PHILOS 2D03, 3C03
PSYCH 3B03, 3N03, 3NN3
RELG ST 2C03, 2M03, 2N03, 2WW3
SOC WORK 3C03, 3D03
SOCIOI 3G03, 3H3, 4G03
WOMEN ST 2H3

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the level I program completed prior to admission to the program. (See Admission above.)
3 units from HEALTHST 2A03, 2A3
3 units HEALTHST 3A03 (See Note 4 above.)
9 units Levels II, III or IV Health Studies or GERONTOL 4I03, of which at least three units must be at Level IV
3 units HEALTHST 4A03
3 units from HEALTHST 4C03, 4D03
9 units from Course List (See Notes 3 and 6 above.)
36 units courses specified for the other subject
3 units HEALTHST 2B03 or an equivalent research methods course if required by the other subject (See Note 2 above.)
3 units HEALTHST 3G03 (See Note 5 above.)
3-6 units from SOC SCI 2J03 or STATS 1CC2* or an equivalent statistics course as prescribed by other Social Sciences programs
12-15 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

B.A. in Health Studies

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a minimum Cumulative Average of 6.0 including grades of at least B- in 3 units from HEALTHST 1A03, 1E03 or 1S03.

NOTES
1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Courses other than those listed below in Course List may be substituted with the prior permission of the Chair. Students wishing to apply for substitutions must contact the Administrative Coordinator of the Department of Health, Aging and Society.
3. Students who previously completed SCIENCE 2G03 may use these units toward Course List.
4. Students who entered the program prior to September 2004 may substitute HEALTHST 3A03 for 3A3.
5. Students who completed GERONTOL 2B03 or 3Q03, prior to September 2005, may use these units to fulfill Course List requirements.

COURSE LIST
(Students are responsible for ensuring that course prerequisites are fulfilled.)

ANTHROP 2A03, 2U03, 3C03, 3Q03, 3Y03, 3Z03, 3Z3
ECON 3Z03
GEO 3HH3
GERONTOL 2F03, 3H03, 3K03, 3L03, 3N03
HTH SCI 2G03, 2J03,
HISTORY 3V03
INDIG ST 3H03, 3H3
KINESIOL 3A03, 3SS3
PHILOS 2D03, 3C03
PSYCH 3B03, 3N03, 3NN3
RELG ST 2C03, 2M03, 2N03, 2WW3
SOC WORK 3C03, 3D03
SOCIOI 3G03, 3H3, 4G03
WOMEN ST 2H3

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the level I program completed prior to admission to the program. (See Admission above.)
3 units from HEALTHST 2A03, 2A3
3 units HEALTHST 3A03 (See Note 4 above.)
9 units Levels II, III or IV Health Studies or GERONTOL 4I03, of which at least three units must be at Level IV
3 units HEALTHST 4A03
3 units from HEALTHST 4C03, 4D03
9 units from Course List (See Notes 3 and 6 above.)
36 units courses specified for the other subject
3 units HEALTHST 2B03 or an equivalent research methods course if required by the other subject (See Note 2 above.)
3 units HEALTHST 3G03 (See Note 5 above.)
3-6 units from SOC SCI 2J03 or STATS 1CC2* or an equivalent statistics course as prescribed by other Social Sciences programs
12-15 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

*If requirement completed in Level I, these units will be taken as electives.
Minor in Health Studies

**NOTES**

1. Students who wish to pursue this minor must ensure that course prerequisites are fulfilled.

2. Students who completed SCIENCE 2G03 before September 2003 may use these units toward the Minor requirements.

3. KINESIO 2G03 and 3A03 may be used to satisfy Health Studies requirements for Kinesiology students pursuing a Minor in Health Studies.

4. Students who completed GERONTOL 2B03, 3O03 or HEALTHST 3A03 prior to September 2005, may use these units to fulfill Course List requirements.

**COURSE LIST**

| ANTHROP 3A03 | 2FF3 | 2U03 | 3C03 | 3Q03 | 3Y03 | 3Z03 | 3Z23, 4S03 |
| ECON 2C03, 3Z03 |
| GEO 3H03 |
| GERONTOL 2F03, 3H03, 3K03, 3L03, 3N03, 4I03 |
| HEALTHST 2C03, 2D03, 2E03, 2H03, 3C03, 3D03, 3E03, 3F03, 3H03, 3M03, 3Y03 |
| HTH SCI 2G03, 2I03, 2J03, 3Y03 |
| HISTORY 3V03, 3Y03 |
| INDIG ST 3H03, 3H03 |
| KINESIOL 3S03 |
| LABR ST 3D03 |
| PHYSIO 2D03, 3C03 |
| POL SCI 3M03 |
| PSYCH 3B03, 3N03, 3N3 |
| RELIG ST 2C03, 2M03, 2N03, 2W03 |
| SOC WORK 3C03, 3O03 |
| SOCIOL 3G03, 3H03, 4G03 |
| WOMENST 2H03, 2H03 |

**REQUIREMENTS**

24 units total

- 3 units from Level I Health Studies
- 21 units from the Course List

**COMBINED B.A. IN INDIGENOUS STUDIES AND ANOTHER SUBJECT**

See the Combined B.A. Indigenous Studies and Another Subject section of this Calendar.

**DEPARTMENT OF KINESIOLOGY**

**WEB ADDRESS:** http://www.mcmaster.ca/kinesiology/

**Honours Kinesiology (B.Sc.)**

(See B.Sc. program in Kinesiology, Faculty of Science, Department of Kinesiology)

**Honours B.Sc. Kinesiology**

(See B.Sc.Kinesiology program, Faculty of Science, Department of Kinesiology)

**Kinesiology I**

**NOTES**

1. Application is made to Kinesiology I Program.

2. The Department of Kinesiology offers two Honours program options beyond Level I. The Honours Bachelor of Kinesiology (Hons.B.Kin.) and the Honours Bachelor of Science (Hons.B.Sc.). Beginning, September 2008, the Department of Kinesiology intends to replace the existing Honours Bachelor of Science (Hons.B.Sc.) degree available to Kinesiology students with an Honours Bachelor of Science Kinesiology degree.

3. Effective 2007-2008, students who wish to register in the B.Sc.Kinesiology program must successfully complete one of MATH 1A03, 1B03 or 1LS3 by the end of Level II. Students without Grade 12 Calculus and Vectors U will be required to complete MATH 1F03 prior to completion of MATH 1A03 or 1LS3.

4. Effective 2008-2009, students who intend to register in the B.Sc.Kinesiology program must complete MATH 1A03 or 1LS3 by the end of Level II. Students without Grade 12 Calculus and Vectors U will be required to complete MATH 1F03 prior to completion of MATH 1A03 or 1LS3.

5. The Honours Bachelor of Kinesiology, the Honours Bachelor of Science, and the proposed Honours Bachelor of Science Kinesiology programs provide students the opportunity to complete various requirements for various professional degree programs. Students are strongly encouraged to seek advice in determining which program option is best suited for them.

**REQUIREMENTS: 30 UNITS (EFFECTIVE 2007-2008)**

- 18 units KINESIO 1A03, 1A03, 1C03, 1E03, 1F03, 1G03
- 12 units Electives

**Honours Bachelor of Kinesiology**

**NOTES**

1. Students may register in a maximum of 15 units of Levels III and IV Kinesiology courses in Level III of their program.

2. Kinesiology courses may not be used toward the elective component of the degree.

3. Upon completion of Kinesiology I, students who have achieved an average of at least 6.0 in KINESIO 1A06, 1E03, 1H03, and whose C.A. is between 3.5 and 5.4 may register in Level II Honours Kinesiology but will be placed on program probation for one reviewing period. A student may be on program probation only once. Upon completion of Kinesiology II, students who have achieved an average of at least 6.0 in KINESIO 1A06, 1E03, 1H03, and whose C.A. is between 3.5 and 5.4 may register in Level II Kinesiology General and, with permission, take Level II Kinesiology required courses. At their next review, such students must achieve a C.A. of at least 6.0 to transfer to an Honours Kinesiology program.

Upon completion of Kinesiology I, students who have not achieved an average of at least 6.0 in KINESIO 1A06, 1E03, 1H03, and whose C.A. is between 3.5 and 5.4 may register in Level II Kinesiology General and, with permission, take Level II Kinesiology required courses. At the end of that period, students who have achieved an average of at least 6.0 in KINESIO 1A06, 1E03, 1H03, and have a C.A. of at least 6.0 may transfer to the Honours Kinesiology program. Students who fail to meet the minimum requirements for transfer to Honours Kinesiology must transfer to a non-Kinesiology program for which they qualify.

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I

**LEVEL I: 30 UNITS**

- 30 units from Kinesiology I completed prior to admission to the program. (See Admission above.)

**LEVEL II: 30 UNITS**

- 15 units KINESIO 2A03, 2C06, 2G03, 2H03
- 3 units from SOC SCI 2J03, STATS 1C03
- 12 units Electives

**LEVELS III AND IV: 60 UNITS**

- 30 units Levels III or IV Kinesiology (See Note 1 above.)
- 30 units Electives (See Note 2 above.)

* If requirement completed in Level I, these units may be taken as electives.

**Honours Bachelor of Kinesiology (B.Kin)**

**NOTES**

1. Kinesiology courses may not be used toward the elective component of the degree.
**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I

**LEVEL I: 30 UNITS**

- 30 units from Kinesiology I completed prior to admission to the program. (See Admission above.)

**LEVEL II: 30 UNITS (EFFECTIVE 2008-2009)**

- 18 units KINESIOL 2A03, 2C03, 2CC3, 2E03, 2F03, 2G03
- 12 units Electives

**LEVELS III AND IV: 60 UNITS (EFFECTIVE 2009-2010)**

- 36 units Levels III or IV Kinesiology of which at least nine units must be Level IV
- 24 units Electives (See Note above.)

**Bachelor of Kinesiology Major** {3308} (Formerly Bachelor of Kinesiology)

Students who registered in this program prior to 2005 may see an Academic Advisor in the Office of the Associate Dean for program requirements.

**LABOUR STUDIES**

**WEB ADDRESS:** http://socserv.mcmaster.ca/labourstudies/

**Honours Labour Studies** {2640}

**ADMISSION**

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from LABR ST 1A03 and one of LABR ST 1C03 or 1Z03.

**NOTES**

1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students are encouraged to consult the Labour Studies website at: http://socserv.mcmaster.ca/labourstudies.
3. Students may not transfer to another Labour Studies program except by the normal application process.
4. Students who complete a six unit Research Methods/Statistics course will reduce their elective component by three units.
5. Students combining Labour Studies with a Humanities subject or with Religious Studies must complete LABR ST 2A03 and SOC SCI 2J03 or STATS 1C03.
6. Students in other Combined Honours Programs may complete the Honours Seminar requirement as specified by the other Department and replace Labour Studies courses.
7. Students who entered the program prior to September 2003, and who completed LABR ST/SOCIOL 2106, will use this course to satisfy six units of Course List 1 and not Course List 2.
8. Students who have completed LABR ST 4C03 need not complete LABR ST 4C03 or 4E03.
9. Students who have completed LABR ST 4D03 need not complete LABR ST 4D03 or 4E03.
10. Students are encouraged to complete LABR ST 3H03 before registering in 4A06.
11. Students who have completed LABR ST 1Z03 may substitute three units Level II or III Labour Studies for LABR ST 2E03.
12. Students who completed ECON 2E03 or HISTORY 3N03 prior to September 2006 may use these as units towards Course List 2.

**COURSE LIST 1**

**COMMERCE** 2B03, 2C03, 2D03
LABR ST 2B03, 2B03, 2G03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3J03, 3W03

**COURSE LIST 2**

**COMMERCE** 3B03, 3C03, 3D03
ECOM 2D03, 2F03, 2K03, 2N03
GERONTOL 3J03
HISTORY 3W03, 3WV3
POL SCI 3D03, 3E03, 3E33, 3F03
SOCIOL 2E06, 2I03, 2Q06, 2R03, 2RR3, 2V06, 3F06, 3LL3

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I

30 units from the Level I program completed prior to admission to the program. (See Admission above.)

18 units LABR ST 2A03, 2C03, 2E03, 3H03, 4A06 (See Note 8 above.)

18 units from Course List 1, where at least nine units must be selected from Levels III or IV courses. (See Note 5 above.)

3 units from LABR ST 4C03, 4E03 (See Note 6 above.)

**FACULTY OF SOCIAL SCIENCES 149**

**3-6 units** from Course List 2 (See Notes 5 and 9 above.)

**3 units** from SOC SCI 2J03 or STATS 1C03 or an equivalent Research Methods/Statistics course as prescribed by the other Social Sciences Programs. (See Note 4 above.)

42-45 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Labour Studies with Arts & Science, or with a Humanities subject are exempt from this requirement.

*If requirement completed in Level I, these units will be taken as electives.*

**Combined Honours in Labour Studies and Another Subject**

**ADMISSION**

Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units from LABR ST 1A03 and one of LABR ST 1C03 or 1Z03. Satisfaction of admission requirements for the Honours B.A. program in the other subject.

**NOTES**

1. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with the Arts and Science Program.
2. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
4. Students may not transfer to another Labour Studies program except by the normal application process.
5. Students who complete a six unit Research Methods/Statistics course will reduce their elective component by three units.
6. Students combining Labour Studies with a Humanities subject or with Religious Studies must complete LABR ST 4A06 and SOC SCI 2J03 or STATS 1C03. Students in other Combined Honours Programs may complete the Honours Seminar requirement as specified by the other Department and replace LABR ST 4A06 with six units Level III Labour Studies courses.
7. Students who entered the program prior to September 2003, and who completed LABR ST/SOCIOL 2106, will use this course to satisfy six units of Course List 1 and not Course List 2.
8. Students who have completed LABR ST 4D03 need not complete LABR ST 4C03 or 4E03.
9. Students are encouraged to complete LABR ST 3H03 before registering in 4A06.
10. Students who have completed LABR ST 1Z03 may substitute three units Level II or III Labour Studies for LABR ST 2E03.

**COURSE LIST 1**

**COMMERCE** 2B03, 2C03, 4B03
LABR ST 2B03, 2B03, 2G03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3J03, 3W03

**REQUIREMENTS**

120 units total (Levels I to IV), of which 48 units may be Level I

30 units from the Level I program completed prior to admission to the program. (See Admission above.)

18 units LABR ST 2A03, 2C03, 2E03, 3H03, 4A06 (See Note 8 above.)

15 units from Course List 1, where at least nine units must be selected from Levels III or IV courses. (See Note 5 above.)

3 units from LABR ST 4C03, 4E03 (See Note 6 above.)

36 units courses specified for the other subject

3 units from SOC SCI 2J03 or STATS 1C03 or an equivalent Research Methods/Statistics course specified by the other subject. (See Note 5 above.)

15 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Labour Studies with Arts & Science, or with a Humanities subject are exempt from this requirement.

*If requirement completed in Level I, these units will be taken as electives.*
B.A. in Labour Studies {1640}

ADMISSION
Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from LABR ST 1A03 and one of LABR ST 1C03 or 1Z03.

NOTES
1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students are encouraged to consult the Labour Studies website at: http://socserv.mcmaster.ca/labourstudies.
3. Students may not transfer to another Labour Studies program except by the normal application process.
4. Students who entered the program prior to September 2003, and who completed LABR ST/SOCIO 2106 may reuse this course to satisfy six units from the Course List.
5. Students who have completed LABR ST 1Z03 may substitute three units Level II or III Labour Studies for LABR ST 2E03.

COURSE LIST
COMMERC 2B3A, 4B3D
LABR ST 2B03, 2BB3, 2G03, 3A03, 3B03, 3C03, 3D03, 3E03, 3F03, 3G03, 3J03, 3W03

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
12 units LABR ST 2A03, 2C03, 2E03, COMMERC 4B3D (See Note 6 above.)
18 units from Course List; where at least nine units must be selected from Levels III or IV courses. (See Note 4 above.)
30 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. *If requirement completed in Level I, these units will be taken as electives.

Minor in Labour Studies
ENROLMENT IS LIMITED.
Labour Studies will admit a maximum of 10 students to the Minor each year.

NOTES
1. Application for admission (forms available from Labour Studies Office) must be made to the Chair, Admissions Committee, by April 1.
2. Students working towards a Minor in Labour Studies may take no more than three units of Level IV Labour Studies courses.
4. Students may not transfer from the Minor in Labour Studies to another Labour Studies program except by the normal application process.
5. Students who have completed LABR ST 2A06 may take nine units Levels II, III, IV Labour Studies instead of 12 units.

REQUIREMENTS
24 units total
6 units LABR ST 1A03 and 1C03 (or 1Z03)
6 units LABR ST 2A03. (See Note 5 above.) 2C03
12 units Levels II, III or IV Labour Studies (See Note 2 and 5 above.)

DEPARTMENT OF POLITICAL SCIENCE

WEB ADDRESS: http://www.socsci.mcmaster.ca/poliisci/

Honours Arts & Science and Political Science (B.Ars.Sc.; See Arts & Science Program)

Honours Political Science {2450}

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 6.0 including a grade of at least B- in POL SCI 1G06.

NOTES
1. Students should be alerted to those Levels II and III courses that are required to qualify for a number of Level IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
2. POL SCI 3N06 and 3N06 are required for students enrolled in Honours Political Science programs and they are recommended for students in the B.A. program.

Combined Honours in
Political Science and Another Subject

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 3.0 including a grade of at least B- in POL SCI 1G06. Satisfaction of the admission requirements for the Honours program in the other subject.

NOTES
1. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and/or the Department of Religious Studies. Students combining Political Science with Arts & Science, or with a Humanities subject, are exempt from this requirement. (The maximum Political Science courses to be taken is 54 units.)

B.A. in Political Science {1450}

ADMISSION
Completion of any Level I program, with a Cumulative Average of at least 3.5 including a grade of at least C- in POL SCI 1G06.

NOTES
1. Students should be alerted to those Levels II and III courses that are required to qualify for a number of Level IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.
2. POL SCI 3N06 and 3N06 are required for students enrolled in Honours Political Science programs and they are recommended for students in the B.A. program.
Minor in Political Science

NOTE
Level IV courses have limited enrolment with preference given to Honours Political Science students. Students must apply by ballot through the Department.

REQUIREMENTS
24 units total
6 units Level I Political Science
18 units Levels II, III, IV Political Science of which up to 12 units may be Level II

DEPARTMENT OF PSYCHOLOGY, NEUROSCIENCE AND BEHAVIOUR

WEB ADDRESS: http://www.mcmaster.ca/psychology

Honours Arts & Science and Psychology (B.A., Sc.; See Arts & Science Program)
Honours Biology and Psychology (B.Sc.)
(See B.Sc. programs in Biology, Faculty of Science, Department of Biology)
Honours Psychology (B.Sc.)
(See B.Sc. programs in Psychology, Faculty of Science, Department of Psychology, Neuroscience and Behaviour)
Honours Linguistic Cognitive Science (B.A.)
(See Faculty of Humanities, Department of Linguistics and Languages)

Honours Psychology (B.A.) (2460)

ADMISSION

2007-2008 ONLY: Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0, a grade of at least B+ in each of PSYCH 1A03 and 1A06; and credit in MATH 1A03 or a grade of at least C- in MATH 1M03.

EFFECTIVE 2008-2009: Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0; a grade of at least B- in each of PSYCH 1A03 and 1A06; credit in one of BIOLOGY 1A03, 1A03 or 1K03; and credit in MATH 1A03 or a grade of at least C- in MATH 1M03.

NOTES
1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students who entered the program prior to September 2008 but after September 2002, must have successfully completed BIOLOGY 1A03, 1A03 or 1K03 by the end of Level II.
3. Credit in MATH 1A03 or 1M03 with a grade of at least C must be completed before entrance into Level II.
4. Students with credit in PSYCH 2R3, do not need to complete PSYCH 2R3 and 2B3. Beginning September 2006, students with credit in STATS 1CC3 but not PSYCH 2R3 must complete both PSYCH 2R3 and 2B3 for any Honours B.A. Psychology program.
5. PSYCH 2R3 and 2B3 must be completed before entrance into Level III of the program. Students wishing to have more mathematical statistics may replace PSYCH 2R3 and 2B3 with STATS 2D03 and 2M03. In this case, students are advised to take MATH 1B03 or 1D03 in Level I and consult a departmental advisor.

6. Students considering applying to graduate school should complete a course with a strong research component such as PSYCH 3Q03, 4Q03, 4D06, 4D09.
7. Students who completed PSYCH 3Q03 or 4Q03 prior to September 2007 may use this credit toward the Level III lab requirement. Beginning September 2007, PSYCH 3Q03 and 4Q03 will no longer fulfill this requirement.
8. Students intending to complete a thesis (PSYCH 4D06, 4D09) are advised to complete the lab requirement prior to registering in a thesis. Beginning September 2008, completing a lab prior to registering in a thesis will become a requirement.
9. Students who previously completed NEURCOMP 3W03 (Neural Computation) may use these units as three units of Course List 1.
10. MATH 1B03 (Linear Algebra I) or 1D03 (Algebra & Geometry) is strongly recommended for students intending to pursue graduate work in Psychology. COMP SCI 1A03 (Computer Based Problem Solving) or 1A04 (Computing Fundamentals) is strongly recommended for students interested in Behavioural Neuroscience and Cognition and Perception, and for students intending to pursue graduate work in Psychology.
11. Students who entered the program prior to September 2002, may replace six units of courses chosen from the Course List 2 (Capstone Courses) with any six units of Levels III or IV Psychology.

12. The Department of Psychology, Neuroscience and Behaviour pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D06, 4D09) and the Individual Study courses (PSYCH 2Q03, 3Q03, 4Q03, 4Q03, 4Q03). Students wishing to take these courses must complete and submit a ballot by mid February. Students will be informed of the outcome of the first phase by mid March. The second phase will include lab courses (PSYCH 3E03, 3L03, 3L03, 3M03, 3S03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4B03, 4BN3, 4C03, 4F03, 4J03, 4J03, 4J03, 4J03). Students wishing to take these courses must complete and submit a ballot by mid April. Specific dates will be announced during the fall term. Ballots can be obtained on the Department of Psychology, Neuroscience and Behaviour web site at: http://www.mcmaster.ca/psychology. Priority will be given to students in Honours Psychology programs.

COURSE LIST 1 (LAB COURSES)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>PSYCH 3BL3</td>
<td>3E03, 3L03, 3M03, 3S03, 3V03</td>
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COURSE LIST 2 (CAPSTONE COURSES)

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<td>PSYCH 3CON3, 4B03, 4BN3, 4C03, 4D06, 4D09, 4F03, 4J03, 4Q03, 4Q03, 4R03, 4Y03</td>
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COURSE LIST 3 (PSYCHOLOGY COURSE LIST)

<table>
<thead>
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<tr>
<td>BIOLOGY 4D03</td>
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</tr>
<tr>
<td>HTH SCI 4C03</td>
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<tr>
<td>KINESIOL 3E03, 4P03</td>
<td></td>
</tr>
</tbody>
</table>

All Levels III and IV Psychology courses (except PSYCH 3P03, 3S33)

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I

LEVEL I: 30 UNITS

30 units from the Level I program completed prior to admission to the program. (See Admission above.)

REQUIREMENTS FOR STUDENTS WHO ENTER LEVEL II IN 2007-2008

LEVEL II: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>PSYCH 2RA3, 2RB3 (See Notes 4 and 5 above.)</td>
<td></td>
</tr>
<tr>
<td>PSYCH 2E03, 2H03, 2T03</td>
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</tr>
<tr>
<td>PSYCH 2D03 or 2F03</td>
<td></td>
</tr>
<tr>
<td>from BIOLOGY 1A03, 1A03, 1K03 (See Note 2 above.)</td>
<td></td>
</tr>
<tr>
<td>from Electives</td>
<td></td>
</tr>
</tbody>
</table>

LEVEL III: 30 UNITS

12 units from Course List 3
3 units from Course List 1 (See Notes 2 and 3 above.)
15 units from Electives

LEVEL IV: 30 UNITS

15 units from Course List 3 and six units from Course List 2; or six units from Course List 3 and PSYCH 4D09
15 units from Electives
LEVEL II: 30 UNITS
5 units PSYCH 2RA3, 2RB3 (See Notes 4 and 5 above.)
9 units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3 (Students interested in completing a specialization should review admission requirements below.)
3 units* from BIOLOGY 1A03, 1AA3, 1K03
12 units Electives
*If requirement completed in Level I, these units will be taken as electives.

LEVEL III: 30 UNITS
12 units from Course List 3; or three additional units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3 and nine units from Course List 3
3 units from Course List 1 (See Notes 7 and 8 above.)
15 units Electives

LEVEL IV: 30 UNITS
15 units nine units from Course List 3 and six units from Course List 2; or six units from Course List 3 and PSYCH 4D09
15 units Electives

Honours Psychology Specializations

THE HONOURS SPECIALIZATION PROGRAMS ARE BEING PHASED OUT. REGISTRATION IN LEVEL III OF EACH OF THESE PROGRAMS WILL BE LAST AVAILABLE IN 2008-2009.

Upon satisfactory completion of Level II Honours Psychology, and subject to meeting the admission requirements, students may choose to register in one of the following four specializations. Students who choose not to specialize will remain registered in the Honours Psychology program.

Behavioural Neuroscience [2460874]

Specialization

ADMISSION
Completion of Level II Honours Psychology, including PSYCH 2F03.

REQUIREMENTS
LEVELS III: 30 UNITS
9 units from PSYCH 2D03, 3A03, 3AA3, 3BN3, 3FA3, 3HH3, 3J03, 3K03, 3Y03
6 units from Course List 3; or three additional units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3 and three units from Course List 3
3 units from Course List 1. PSYCH 3EE3, 3L03, 3M03 or 3V03 is recommended. (See Notes 7 and 8 above.)
12 units Electives

LEVEL IV: 30 UNITS
6 units from PSYCH 2D03, 3A03, 3AA3, 3BN3, 3FA3, 3HH3, 3J03, 3K03, 3Y03, 4BN3, 4F03, 4Y03, BIOLOGY 4T03
12 units six units from Course List 3 and six units from Course List 2
or
three units from Course List 3 and PSYCH 4D09
12 units Electives

Cognition and Perception [2460882]

Specialization

ADMISSION
Completion of Level II Honours Psychology, including PSYCH 2E03, 2H03.

REQUIREMENTS
LEVELS III: 30 UNITS
12 units from PSYCH 3A03, 3AA3, 3BB3, 3BN3, 3FA3, 3HH3, 3J03, 3K03, 3U03, 3V03
3 units from Course List 3; or three additional units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3
3 units from Course List 1. PSYCH 3EE3, 3L03, 3M03 or 3V03 is recommended. (See Notes 7 and 8 above.)
12 units Electives

LEVEL IV: 30 UNITS
6 units from PSYCH 3A03, 3AA3, 3BB3, 3BN3, 3FA3, 3HH3, 3J03, 3J03, 3U03, 3V03, 3V03
12 units six units from Course List 3 and six units from Course List 2
or
three units from Course List 3 and PSYCH 4D09
12 units Electives

Developmental Specialization [2460878]

ADMISSION
Completion of Level II Honours Psychology.

REQUIREMENTS
LEVELS III: 30 UNITS
3 units PSYCH 3G03
6 units from PSYCH 3HH3, 3I03, 3JJ3
6 units from Course List 3; or three additional units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3 and three units from Course List 3
3 units from Course List 1. PSYCH 3EE3, 3L03 or 3V03 is recommended. (See Notes 7 and 8 above.)
12 units Electives

LEVEL IV: 30 UNITS
6 units from PSYCH 3HH3, 3I03, 3JJ3, (if not already taken) 3B03, 3C03, 3D03, 3Z03, 4C03
12 units six units from Course List 3 and six units from Course List 2
or
three units from Course List 3 and PSYCH 4D09
12 units Electives

Evolution and Social Behaviour Specialization [2460880]

ADMISSION
Completion of Level II Honours Psychology, including PSYCH 2TT3.

REQUIREMENTS
LEVELS III: 30 UNITS
9 units PSYCH 2D03, 3A03, 3F03; 3JJ3, 3K03, 3Y03
6 units from Course List 3; or three additional units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3 and three units from Course List 3
3 units from Course List 1. PSYCH 3L03 or 3S03 is recommended. (See Notes 7 and 8 above.)
12 units Electives

LEVEL IV: 30 UNITS
6 units PSYCH 2D03, 3A03, 3F03, 3JJ3, 3K03, 3M03, 3T03, 3Y03, 4D03, 4Y03
12 units six units from Course List 3 and six units from Course List 2
or
three units from Course List 3 and PSYCH 4D09
12 units Electives

Combined Honours in Psychology and Another Subject (B.A.)

ADMISSION
2007-2008 ONLY: Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0; a grade of at least B- in each of PSYCH 1A03 and 1AA3 (or PSYCH 1A05); and credit in MATH 1A03 or a grade of at least C- in MATH 1M03.

EFFECTIVE 2008-2009: Enrolment in this program is limited. Selection is based on academic achievement but requires, as a minimum, completion of any Level I program with a Cumulative Average of at least 6.0; a grade of at least B- in each of PSYCH 1A03 and 1AA3 (or 1A05); credit in one of BIOLOGY 1A03, 1A03 or 1K03; and credit in MATH 1A03 or a grade of at least C- in MATH 1M03.
NOTES
1. Application for admission must be made by April 1. See Admission to Level II Programs in Academic Regulations in this section of the Calendar.
2. Students who entered the program prior to September 2008 but after September 2002, must have successfully completed BIOLOGY 1A03, 1AA3 or 1K03 by the end of Level II.
3. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with Arts and Science Programs.
4. Credit in MATH 1A03 or 1M03 with a grade of at least C- must be earned in February or by mid-April.
5. Students with credit in PSYCH 2RA3 and 2RB3. Beginning September 2006, students with credit in STATS 1C03 but not PSYCH 2RR3 must complete both PSYCH 2RA3 and 2RB3 for any Honours B.A. Psychology program.
6. PSYCH 2RA3 and 2RB3 must be completed before entrance into Level III of the program. Students wishing to have more mathematical statistics may replace PSYCH 2RA3 and 2RB3 with STATS 2D03 and 2MB3. In this case, students are advised to take MATH 1B03 or 1D03 in Level I and consult with a departmental advisor.
7. Students considering applying to graduate school should complete a course with a strong research component such as PSYCH 3QQ3, 4QQ3, 4D06, 4D09.
8. Students who completed PSYCH 3QQ3 or 4QQ3 prior to September 2007, may use this credit toward the Level III lab requirement. Beginning September 2007, PSYCH 3QQ3 and 4QQ3 will no longer fulfill this requirement.
9. Students intending to complete a thesis (PSYCH 4D06, 4D09) are advised to complete the lab requirement prior to registering in a thesis. Beginning September 2008, completing a lab prior to registering in a thesis will become a requirement.
10. Students who previously completed NEURCOMP 3W03 (Neural Computation) may use these units as three units of Course List 1.
11. MATH 1B03 (Linear Algebra I) or 1D03 (Algebra and Geometry) is strongly recommended for students intending to pursue graduate work in Psychology. COMPSCI 1MA3 (Computer Based Problem Solving) or 1MA3 (Computing Fundamentals) is strongly recommended for students interested in Behavioural Neuroscience and Cognition and Perception, and for students intending to pursue graduate work in Psychology.
12. The Department of Psychology, Neuroscience and Behaviour, pre-registration ballot will be done in two phases. The first phase will include all the course listed above (PSYCH 1A03, 1AA3, 1M03, 1K03), and the individual Study courses (PSYCH 2Q3G, 3Q03, 3Q03, 4Q03, 4Q03). Students wishing to take these courses must complete and submit a ballot by mid-February. Students will be informed of the outcome of the first phase by mid-March. The second phase will include lab courses (PSYCH 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03, 3V03, 3U03, 3V03, 3BB3, 3C03, 3CC3, 3CC3, 3UU3, 3VV3). Students wishing to take these courses must complete and submit a ballot by mid-April. Specific dates will be announced during the fall term. Ballots can be obtained on The Department of Psychology, Neuroscience and Behaviour web site at: http://www.mcmaster.ca/psychology. Priority will be given to students in Honours Psychology programs.

COURSE LIST 1 (LAB COURSES)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>3BL3, 3EE3, 3L03, 3LL3, 3MM3, 3S03, 3V03</td>
</tr>
<tr>
<td>BIOLOGY</td>
<td>4T03</td>
</tr>
<tr>
<td>HTH SCI</td>
<td>4B3</td>
</tr>
<tr>
<td>KINESIOL</td>
<td>3E03, 4P03</td>
</tr>
</tbody>
</table>

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I.

LEVEL I

LEVEL II: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
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<td>PSYCH</td>
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<tr>
<td>BIOLOGY</td>
<td>6 units</td>
</tr>
<tr>
<td>Electives</td>
<td>6 units</td>
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LEVEL III: 30 UNITS

<table>
<thead>
<tr>
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<tr>
<td>PSYCH</td>
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LEVEL IV: 30 UNITS

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<tr>
<td>BIOLOGY</td>
<td>6 units</td>
</tr>
<tr>
<td>Electives</td>
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REQUIREMENTS FOR STUDENTS WHO ENTER

LEVEL II PRIOR TO 2007-2008

LEVEL II: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>PSYCH</td>
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<tr>
<td>BIOLOGY</td>
<td>6 units</td>
</tr>
<tr>
<td>Electives</td>
<td>6 units</td>
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LEVEL III: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>3 units</td>
</tr>
<tr>
<td>BIOLOGY</td>
<td>6 units</td>
</tr>
<tr>
<td>Electives</td>
<td>6 units</td>
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</table>

LEVEL IV: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
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<td>BIOLOGY</td>
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</tr>
<tr>
<td>Electives</td>
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</table>

B.A. in Psychology

ADMISSION
Completion of any Level I program with a Cumulative Average of at least 3.5 and an average of at least 4.0 in PSYCH 1A03 and 1AA3 or a grade of at least C- in PSYCH 1A06.

NOTES
1. One of MATH 1A03, 1K03 or 1M03 must be completed by the end of Level II. Completion in Level I is strongly recommended.
2. One of STATS 1A03, 1CC3, or SOC SCI 2J03 must be completed by the end of Level II.
3. One of BIOLOGY 1A03, 1AA3 or 1K03 serves as the prerequisite for some Level II Psychology courses. Students are strongly encouraged to check prerequisites carefully.
4. Students wishing to take PSYCH 3Q03 and 4Q03 must complete and submit a pre-registration ballot by mid-February. Students will be informed of the outcome by mid-March. Specific dates will be announced during the fall term. Ballots can be obtained on the Department of Psychology, Neuroscience and Behaviour web site at: http://www.mcmaster.ca/psychology. Priority will be given to students in Honours Psychology programs.

COURSE LIST 1 (PSYCHOLOGY COURSE LIST)

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>2AA3, 2B03, 2C03, 2D03, 2S03, 3BB3, 3C03, 3CC3, 3K03, 3M03, 3PP3, 3QQ3, 3S03, 3S03, 3U03, 3V03</td>
</tr>
</tbody>
</table>

REQUIREMENTS
90 units total (Levels I to III), of which 42 units may be Level I.

LEVEL II IN 2007-2008

LEVEL II: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>PSYCH</td>
<td>9 units</td>
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<tr>
<td>BIOLOGY</td>
<td>3 units</td>
</tr>
<tr>
<td>Electives</td>
<td>15 units</td>
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REQUIREMENTS FOR STUDENTS WHO ENTER LEVEL III IN 2007-2008

LEVEL III: 30 UNITS

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<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<td>PSYCH</td>
<td>12 units</td>
</tr>
<tr>
<td>Electives</td>
<td>12 units</td>
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</table>

LEVEL III: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>12 units</td>
</tr>
<tr>
<td>Electives</td>
<td>12 units</td>
</tr>
</tbody>
</table>

LEVEL III: 30 UNITS

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYCH</td>
<td>12 units</td>
</tr>
<tr>
<td>Electives</td>
<td>12 units</td>
</tr>
</tbody>
</table>
Honours Arts & Science and Religious Studies

(B.Arts.Sc.; See Arts & Science Program)

FIELDS OF STUDY

The Department offers courses in four fields of study. Students are encouraged to specialize in any one of these fields. Levels II, III and IV courses are allocated to the fields as follows:

I. ASIAN RELIGIONS

RELIG ST
2E03, 2F03, 2I03, 2K03, 2L03, 2P06, 2TT3, 3AA3, 3E03, 3L03, 3P03, 3RR3, 3S03, 3U03, 3U3, 3V03, 4H03

SANSKRIT
3A06, 4B06

II. BIBLICAL STUDIES

RELIG ST
2B03, 2DD3, 2EE3, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3DD3, 3GG3, 3JO3, 3K03, 3M03, 3N03, 3RO3, 3TO3, 4I03

HEBREW
2A03, 2B03, 3A03, 3B03

III. WESTERN RELIGIOUS THOUGHT

RELIG ST
2C03, 2EA3, 2EB3, 2FF3, 2I03, 2JJ3, 2KK3, 2MM3, 2QQ3, 2UU3, 2V03, 2Z03, 3A03, 3B03, 3C03, 3CC3, 3DD3, 3GG3, 3KK3, 3LL3, 3MM3, 3NN3, 3NO3, 3WO3, 3X03, 3Z03, 3Z33, 4N03

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS

RELIG ST
2BB3, 2HH3, 2M03, 2N03, 2QQ3, 2SS3, 2TT3, 2WW3, 3E03, 4P03

NOTE

Students wishing to specialize in Asian Religions should consider beginning language training in Sanskrit or Japanese or both early in their program (see the calendar offerings listed under these headings in the Course Listings section of this Calendar). Students wishing to specialize in Biblical Studies should consider work in Greek (see offerings under Classics, Greek in the Course Listings section of this Calendar) or Hebrew or both.

Honours Religious Studies

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Religious Studies courses, preferably including one Level I Religious Studies course.

NOTES

1. All honours students are encouraged to consult a departmental undergraduate advisor in the selection of their Levels III and IV courses.

2. Part-time students should note that RELIG ST 3F03 is regularly offered in the evening. Other courses required for completion of the degree are offered in the evening whenever possible. Students who anticipate difficulty in fulfilling program requirements should consult a departmental undergraduate advisor as early as possible in their program.

3. With the written approval of a departmental undergraduate advisor, courses from other departments may be substituted for Religious Studies.

4. Students who enter the program prior to September 2004 may use RELIG ST 2EA3, 2EB3, 2C03 or 2D03 toward the Contemporary and Comparative Fields of Study.

5. RELIG ST 4R06 is strongly recommended for students considering graduate work in Religious Studies.

6. Since not all Level IV seminars are offered each year, students in the Honours program are encouraged to take at least three units from Level IV seminar in Level III.

REQUIREMENTS

120 units total (Levels I to IV), of which 48 units may be Level I, 30 units from the Level I program completed prior to admission to the program. (See Admission above.)

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6 units from Asian Religions

3 units from Biblical Studies

3 units from Western Religious Thought

3 units from Contemporary and Comparative Religions (See Note 4 above.)

3 units RELIG ST 3F03

21 units Levels II, III Religious Studies of which at least six units must be from Level II. Level III courses which have been taken to satisfy the above fields of study requirements may be subtracted from these six units of Level III. (See Notes 5 and 6 above.)

9 units Level IV Religious Studies (See Notes 5 and 6 above.)

6 units* from Linguistics, a language other than English or Statistics

36-39 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities.

*If requirement completed in Level I, these units will be taken as electives.

Combined Honours

Religious Studies and Another Subject

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including an average of at least 7.0 in six units of Religious Studies courses, preferably including one Level I Religious Studies course. Satisfaction of the admission requirements for the honours program in the other subject.

NOTES

1. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with the Arts and Science Program.

2. All honours students are encouraged to consult a departmental undergraduate advisor in the selection of their Levels III and IV courses.

3. Part-time students should note that RELIG ST 3F03 is regularly offered in the evening. Other courses required for completion of the degree are offered in the evening whenever possible. Students who anticipate difficulty in fulfilling program requirements should consult a departmental undergraduate advisor as early as possible in their program.
Minor in Religious Studies

REQUIREMENTS
24 units total
24 units Religious Studies courses with no more than six units from Level I

SCHOOL OF SOCIAL WORK

WEB ADDRESS: http://www.socsci.mcmaster.ca/socwork/

Combined Bachelor of Arts/Bachelor of Social Work (B.A./B.S.W.)

ADMISSION
Enrolment in this program is limited. Eligibility is dependent upon completion of any Level I program (a minimum of 30 units), including six units from SOC WORK 1A06 or SOCIOL 1A06 and six additional units of introductory level courses from the Course List (see below), normally with a minimum average of 6.0 on the most recent 30 units of university-level courses completed (five full credits) and evidence of personal suitability which may be evaluated by a combination of written statements, tests or interviews.

COURSE LIST
ANTHRO 1A03, 1B03, 1203
CMST 1A03, 1B03
ECON 1B03, 1B23
GEO 1HS3, 1HU3
GERONT 1A03
HEALTH 1A03
INDIG ST 1A03, 1AA3
INQUIRY 1SS3
LABR ST 1A03, 1C03, 1Z03
PEACE ST 1A03, 1B03
POL SCI 1G06
PSYCH 1A03, 1AA3
RELIG ST 1B06, 1D06, 1E03, 1003
SOC WORK 1A06
SOCIOL 1A06
WOMEN ST 1A03, 1AA3 (or 1A06)

ADMISSION NOTES
1. Students who have successfully completed the two-year College of Applied Arts and Technology Social Services Diploma with a minimum Grade Point Average of 3.0 on a 4.0 scale (75%) are considered to have completed the equivalent of SOC WORK 1A06 and, therefore, are required to complete six additional units of introductory level courses from the Course List. (See Admission above.)
2. An applicant must complete Level I (a minimum of 30 units) by April of the year in which application is made.
3. In choosing Level I courses, the student should take care to include those courses that will allow entry to the B.A. program. Students should consult the relevant sections of the Calendar and/or the Office of the Associate Dean.
4. Students who intend to apply for the combined B.A. and B.S.W. program must follow the application instructions as found on the School of Social Work web site: http://www.socsci.mcmaster.ca/socwork/ugrprog/admissions_app_instructions.cfm. Students who are unable to access this web site must consult the School of Social Work prior to the application deadline.
5. All applications for admission to the School of Social Work are considered annually and must be made directly to the School well before March 1 for the Fall/Winter term. Aboriginal students (includes First Nations and Métis) may select an alternate application process. Those who wish to do so should consult the School of Social Work for details.

Applicants transferring from other universities (see Two-Tier Applications below) must also apply through the Ontario Universities’ Application Centre (OUAC) and must complete Introductory Sociology or Social Work and six additional units from the Course List. (See Admission above.)
6. TWO-TIER APPLICATIONS
If you are transferring from a university other than McMaster, or a college, you must complete two application forms as follows:

a) General Application (December 1)
If you wish to study full-time, complete the OUAC 105D on-line application at http://compass.ouac.on.ca showing both your interest in the B.A./B.S.W. program, and the subject you wish to take for the B.A. component.
If you wish to study part-time, complete a Part-time Degree. Studies application online at http://registrar.mcmaster.ca/EXTERNAL/che/ADMISSIONS.html
To allow adequate time for the processing of the General Application, applicants are advised to submit their applications by December 1.

b) Supplementary Application (March 1)
Students must follow the application instructions as found on the School of Social Work web site: http://www.socsci.mcmaster.ca/socwork/ugrdprog/admissions_app_instructions.cfm. Students who are unable to access this web site must contact the School of Social Work prior to March 1. This form is used to decide whether applicants are able to write an admissions test, which is scheduled for two dates in March of each year, both on site and at alternative testing centres outside Hamilton.
Adequate time is needed to make these arrangements and to complete the admissions process. Therefore, it is impossible to consider applicants whose Supplementary Application arrives after the March 1 deadline. Questions or concerns may be directed to the School of Social Work.

7. Students admitted to the combined program who have completed B.A. work beyond Level 1 normally will require three years after admission to complete the program.

PROGRAM NOTES
1. Course Groupings:
   - Foundation for Social Work includes core courses which are required.

FOUNDATION FOR SOCIAL WORK
SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD6, 4D06, 4DD6, 4X03

SOCIAL AND POLITICAL CONTEXT OF SOCIAL WORK
SOC WORK 3C03, 3H03, 3N03, 4B03, 4C03, 4F03, 4G03, 4I03, 4L03, 4Q03, 4R03, 4U03, 4V03, 4Y03

2. Progression Within Program: Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 4D06, 4J03, 4Q03, and 4X03, and a Pass in SOC WORK 3D06 and 4D06 and a CA of at least 6.0.

3. Students must complete three units of Social Sciences Research Methods (e.g., SOCIO1 2203, or GERONTOL 2203). A statistics course may not substitute for a research methods course.

4. Graduation: To qualify for the B.A./B.S.W. degrees, students must complete a total of at least 60 units of Social Work. 48 units must be in the B.S.W. degree, and 12 units Social and Political Context of Social Work courses including SOC WORK 4J03 as elective for the B.A. program. The B.S.W. degree component will be granted only if the student has achieved a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 4D06, 4J03, 4Q03, and 4X03, a Pass in SOC WORK 3D06 and 4D06 and a CA of at least 6.0.

5. Students are expected to assume the cost of travelling to and from field practice agencies.

REQUIREMENTS
138 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
15 units SOC WORK 2A06, 2B03, 2BB3, 2E03, (which must be completed prior to enrolling in SOC WORK 3D06 and 3DD6)
12 units SOC WORK 3D06, 3DD6 (which must be completed prior to enrolling in SOC WORK 4D06 and 4DD6)
12 units SOC WORK 4D06, 4DD6
9 units SOC WORK 3A03, 4C03, 4X03
12 units SOC WORK 4J03 and nine additional units selected from the Social and Political Context of Social Work courses (See Program Note 1 above.)
3 units Social Sciences Research Methods. (These units will be taken as electives for the B.A. (See Program Note 3 above.)
24 units courses specified for the B.A. (This may vary according to the B.A. program.)
21 units Electives. (Other requirements may be specified by the B.A. program.)

Bachelor of Social Work (B.S.W.)

ADMISSION
Enrolment in this program is limited. Eligibility is dependent upon completion of an undergraduate degree from a recognized university, including six units from SOCIO1 1A06 or SOC WORK 1A06 and six additional units of introductory level courses from the Course List (see below), normally with a minimum average of 6.0 on the most recent 30 units of university-level courses completed (five full credits) and evidence of personal suitability which may be evaluated by one or a combination of written statements, tests or interviews.

COURSE LIST
ANTHROP 1A03, 1B03, 1Z03
CMST 1A03, 1B03
ECON 1B03, 1BB3
GEO 1HS3, 1HU3
GERONTOL 1A03
HEALTHST 1A03
INDIG ST 1A03, 1AA3
INQUIRY 1S03
LABR ST 1A03, 1C03, 1Z03
PEACE ST 1A03, 1B03
POL SCI 1G06
PSYCH 1A03, 1AA3
RELIG ST 1B06, 1D06, 1E03, 1I03
SOC WORK 1A06
SOCIO1 1A06
WOMEN ST 1A03, 1AA3 (or 1A06)

Students who have successfully completed the two-year College of Applied Arts and Technology Social Services Diploma with a minimum Grade Point Average of 3.0 on a 4.0 scale (75%) are considered to have completed the equivalent of SOC WORK 1A06 and, therefore, are required to complete six additional units from the Course List above. (See Admission above.)

An applicant is required to complete the prerequisite undergraduate degree work by April of the year in which application is made.

Aboriginal students (includes First Nations and Metis) may select an alternate application process. Those who wish to do so should consult the School of Social Work for details.

Enrolment in the B.S.W. program is limited. Students who intend to apply to the B.S.W. program must follow the application instructions as found on the School of Social Work web site: http://www.socsci.mcmaster.ca/socwork/ugrdprog/admissions_app_instructions.cfm. Students who are unable to access this web site must contact the School of Social Work well before the March 1 deadline for the Fall/Winter term. Applicants must also apply to the University.

All applications for admission to the School of Social Work are considered annually and must be made directly to the School well before March 1 for the Fall/Winter term.
TWO-TIER APPLICATIONS

Individuals interested in the B.S.W. program must complete two application forms as follows:

1. General Application (December 1)
   If you wish to study full-time, you must complete the 105D online application form at http://compass.ouac.on.ca or, if you are a McMaster graduate, obtain the McMaster Returning Student Application at http://registrar.mcmaster.ca/EXTERNAL/APPLI.RETURN.HTM.
   If you wish to study part-time, complete the Part-Time Degree Studies Application at http://www.mcmaster.ca/part-time/application-procedure/index.html McMaster University Part-Time Application form or, if you are a McMaster graduate, a McMaster Returning Student Application form at http://registrar.mcmaster.ca/EXTERNAL/APPLI.RETURN.HTM.
   In order to allow adequate time for the processing of the General Application, applicants are advised to submit their applications by December 1.

2. Supplementary Application (March 1)
   Students must follow the application instructions as found on the School of Social Work web site: http://www.soscil.mcmaster.ca/SSWgraduate/ugrdprog/admissions_app_instructions.cfm. Students who are unable to access this web site must contact the School of Social Work well before the March 1 deadline for the Fall/Winter term. This form is used to decide when applicants are able to write an admissions test, which is scheduled for two dates in March of each year, both on site and at alternative testing centres outside Hamilton. Adequate time is needed to make these arrangements and to complete the admissions process. Therefore, it is impossible to consider applicants whose Supplementary Application arrives after the March 1 deadline. Questions or concerns may be directed to the School of Social Work.

NOTES
1. Course Groupings:
   - Foundation of Social Work includes core courses which are required;
   - Social Work students must take 12 units from Social and Political Context of Social Work courses, including SOC WORK 4J03. All Social and Political Context of Social Work courses have limited enrolment.

   FOUNDATION OF SOCIAL WORK
   SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 3DD6, 4D06, 4DD6, 4003, 4X03

   SOCIAL AND POLITICAL CONTEXT OF SOCIAL WORK
   SOC WORK 3C03, 3H03, 3D06, 4B03, 4D03, 4F03, 4G03, 4103, 4L03, 4Q03, 4R03, 4U03, 4W03, 4Y03

2. Progression Within Program:
   Students must achieve a minimum grade of C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 4D06, 4J03, 4003 and 4X03, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.

3. Students must complete three units of Social Sciences research Methods (e.g. SOCIO1 2203 or GERONTOL 2C03). If this requirement was completed prior to admission to the B.S.W. program, three additional units from the Social and Political Context of Social Work courses will be taken. A statistics course may not substitute for a research methods course.

4. Graduation:
   To qualify for the B.S.W. students must complete a total of 60 units. The B.S.W. will be granted only if the student has achieved a grade of at least C+ in each of SOC WORK 2A06, 2B03, 2BB3, 2E03, 3A03, 3D06, 4D06, 4J03, 4003 and 4X03, a Pass in SOC WORK 3D06 and 4D06, and a CA of at least 6.0.

5. Students are expected to assume the cost of travelling to and from field practice agencies.

REQUIREMENTS
60 units total
15 units SOC WORK 2A06, 2B03, 2BB3, 2E03 (which must be completed prior to enrolling in SOC WORK 3D06 and 3DD6)
12 units SOC WORK 3D06, 3DD6 (which must be completed prior to enrolling in SOC WORK 4D06 and 4DD6)
12 units SOC WORK 4D06, 4DD6
9 units SOC WORK 3A03, 4003, 4X03
9 units SOC WORK 4J03 and six additional units selected from the Social and Political Context of Social Work courses
3 units Social Sciences Research Methods. If requirement was completed prior to admission, these units must be chosen from Social and Political Context of Social Work courses. (See Note 3 above.)

DEPARTMENT OF SOCIOLOGY

WEB ADDRESS: http://www.soscil.mcmaster.ca/sociology/

Honours Arts & Science and Sociology
(B.Arts.Sc.; see Arts & Science Program)

Honours Sociology (Specialist Option) {2522}

Students who registered in this program prior to 2001 may see an Academic Advisor in the Office of the Associate Dean for program requirements.

Honours Sociology

{2520}

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIO1 1A06.

NOTES
1. Students may take a maximum of six units of Level IV independent research (SOCIO4 4M03, 4MM6 or 4N03).
2. Students should check both this Calendar and the Departmental web-site for prerequisites and course descriptions.
3. Students may take a maximum of nine combined units of SOCIO1 3GG3 and 4GG3.
4. Students who previously completed SOCIO1 3I03 may substitute this course with SOCIO1 3003 or 3W03 to satisfy the Advanced Sociological Methods requirement.

REQUIREMENTS
120 units total (Levels I to IV), of which 48 units may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above.)
6 units SOCIO1 2203
3 units from SOCIO1 3A03, 3P03, 3PP3
3 units from SOCIO1 3C03, 3W03 (See Note 4 above.)
12 units Level IV Sociology
18 units Levels II or III Sociology
3 units SOCIO1 2203 which must be completed by the end of 60 units
6 units SOCIO1 3H06
36 units Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.

Combined Honours in Sociology and Another Subject

ADMISSION

Completion of any Level I program with a Cumulative Average of at least 6.0 including a grade of at least B- in SOCIO1 1A06. Satisfaction of admission requirements for the Honours program in the other B.A. subject.

NOTES
1. Subject to meeting admission requirements, students may combine two subjects and be graduated with a combined honours B.A. degree. These combinations are available within the Faculty, with programs in the Faculty of Humanities and with the Arts and Science Program,
2. Students who choose to complete a thesis (or independent research) in the other subject may replace six units of Level IV Sociology with Level III Sociology. This substitution must be approved in writing by a departmental undergraduate advisor.

3. Students may take a maximum of six units of Level IV independent research (SOCIOL 4M03, 4MM6 or 4N03).

4. Students should check both this Calendar and the Departmental web-site for prerequisites and course descriptions.

5. Students may take a maximum of nine combined units of SOCIOL 3GG3 and 4GG3.

6. Students who previously completed SOCIOL 3103 may substitute this course with SOCIOL 3003 or 3W03 to satisfy the Advanced Sociological Methods requirement.

**REQUIREMENTS**

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>120 units total (Levels I to IV), of which 48 units may be Level I</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 units</td>
<td>from the Level I program completed prior to admission to the program. (See Admission above.)</td>
</tr>
<tr>
<td>6 units</td>
<td>SOCIOL 2S06</td>
</tr>
<tr>
<td>3 units</td>
<td>from SOCIOL 3A03, 3P03, 3PP3</td>
</tr>
<tr>
<td>3 units</td>
<td>from SOCIOL 3003, 3W03 (See Note 6 above.)</td>
</tr>
<tr>
<td>12 units</td>
<td>Level IV Sociology (See Note 2 above.)</td>
</tr>
<tr>
<td>12 units</td>
<td>Levels II or III Sociology</td>
</tr>
<tr>
<td>36 units</td>
<td>courses specified for the other subject</td>
</tr>
<tr>
<td>6-9 units</td>
<td>SOCIOL 2203 which must be completed by the end of 60 units, and SOCIOL 3H06 or, in combined programs within the Faculty of Social Sciences, the six units Research Methods/Statistics course specified for the other subject.</td>
</tr>
<tr>
<td>9-12 units</td>
<td>Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies. Students combining Sociology with Arts &amp; Science, or with a Humanities subject, are exempt from this requirement.</td>
</tr>
</tbody>
</table>

**B.A. in Sociology**

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>1520</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADMISSION</td>
<td>Completion of any Level I program, with a Cumulative Average of at least 3.5 including a grade of at least C- in SOCIOL 1A06.</td>
</tr>
<tr>
<td>NOTE</td>
<td>Students should check both this Calendar and the Departmental web-site for prerequisites and course descriptions.</td>
</tr>
<tr>
<td>REQUIREMENTS</td>
<td>90 units total (Levels I to III), of which 42 units may be Level I</td>
</tr>
<tr>
<td>30 units</td>
<td>from the Level I program completed prior to admission to the program. (See Admission above.)</td>
</tr>
<tr>
<td>6 units</td>
<td>SOCIOL 2S06</td>
</tr>
<tr>
<td>3 units</td>
<td>SOCIOL 2203</td>
</tr>
<tr>
<td>15 units</td>
<td>Levels II or III Sociology</td>
</tr>
<tr>
<td>36 units</td>
<td>Electives. If not completed in Level I, a minimum of six units must be from the Faculty of Humanities and/or the Department of Religious Studies.</td>
</tr>
</tbody>
</table>

**Minor in Sociology**

<table>
<thead>
<tr>
<th>REQUIREMENTS</th>
<th>24 units total</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 units</td>
<td>SOCIOL 1A06</td>
</tr>
<tr>
<td>6 units</td>
<td>from SOCIOL 2C06, 2D06, 2R03 and 2RR3, 2V06 (See Note 1 above.)</td>
</tr>
<tr>
<td>12 units</td>
<td>Levels II or III Sociology</td>
</tr>
</tbody>
</table>
INDIGENOUS STUDIES PROGRAM

COMBINED B.A. IN
INDIGENOUS STUDIES
AND ANOTHER SUBJECT

WEB ADDRESS: http://www.mcmaster.ca/indigenous/default.htm

Hamilton Hall, Room 103
Ext. 27426

Director
D.J. Martin-Hill, B.A., M.A., Ph.D.
Aboriginal Student Counsellor
R. McLester/B.A.

ACADEMIC REGULATIONS

STUDENT ACADEMIC RESPONSIBILITY
You are responsible for adhering to the statement on student academic responsibility found in the General Academic Regulations section of this Calendar.

ACCESS TO COURSES
All undergraduate courses at McMaster have an enrolment capacity. The University is committed to making every effort to accommodate students in required courses so that their program of study is not extended. Unless otherwise specified, registration is on a first-come basis and in some cases priority is given to students from particular programs or faculties. All students are encouraged to register as soon as possible; SOLAR is available to them.

The Combined B.A. Program in Indigenous Studies is governed by the general Academic Regulations of the University and the regulations described below.

Combined B.A. Program in Indigenous Studies and Another Subject

ADMISSION
Completion of any Level I program, with a Cumulative Average of at least 3.5 including an average of at least 4.0 in six units from CAYUGA 1Z03, INDIG ST 1AA3, 1A3, MOHAWK 1Z03, OJIBWE 1Z03 or a grade of at least C- in one of CAYUGA 1Z06, INDIG ST 1A06, MOHAWK 1Z06 or OJIBWE 1Z06 and satisfaction of admission requirements for the B.A. program in the other subject.

NOTES
1. Those students who entered the program prior to September 2005 should follow the requirements as specified in the Calendar which was in effect the year they entered the program.
2. Three units of work in the other subject of the combined program which are also in the Course List may be used to fulfill the requirements of both program components.
3. Students who previously completed ANTHROP 3F03 or POL SCI 3C03 may use these units toward the Course List requirement.

REQUIREMENTS
90 units total (Levels I to III), of which 42 may be Level I
30 units from the Level I program completed prior to admission to the program. (See Admission above)
6 units from CAYUGA 2Z03, INDIG ST 2AA3, MOHAWK 2Z03, OJIBWE 2Z03
3 units from INDIG ST 2C03, 2D03
15 units from Level II, III Indigenous Studies, CAYUGA 2Z03, MOHAWK 2Z03, OJIBWE 2Z03 (if not taken to satisfy requirement above), courses from the Course List of which at least three units must be Level III. (See Notes 2 and 3 above.)
24 units
12 units Electives

Minor In Indigenous Studies
NOTES
1. No more than six of the 18 units from Course List may be Level I courses.
2. At least 12 of the 18 units required for the Minor must be Indigenous Studies or Indigenous language courses.
3. Students who previously completed ANTHROP 3F03, INDIG ST 3J03, 3J03 or POL SCI 3C03 may use these units toward the Course List requirement.

REQUIREMENTS
6 units from the Course List (See Notes 2 and 3 above.)

NOTES

INDIGENOUS STUDIES PROGRAM
INTERDISCIPLINARY MINORS AND THEMATIC AREAS

INTERDISCIPLINARY MINORS

The following two listings constitute University-sanctioned Minors in Archaeology and Jewish Studies.

- No degree is granted for these programs of study, but students registered in four- or five-level programs can receive a Minor designation on their transcripts following graduation if their chosen Minor program is successfully completed. Please see the Minor subsection in the General Academic Regulations section of this Calendar for further information.

Note: Students should note that not all courses listed are available each year. As well, it is the student’s responsibility to check carefully for prerequisites, corequisites and enrolment restrictions.

Archaeology

Coordinator
Eduard Reinhardt (Geography and Earth Sciences)

Committee of Instruction
Joe Boyce (Geography and Earth Sciences)
Aubrey Cannon (Anthropology)
Laura Finsten (Anthropology)
Michele George (Classics)
Darren Grocke (Geography and Earth Sciences)
Celina Gray (Classics)
Alexandra Retzlaff (Classics)
Kostalena Michelaki (Anthropology)
Hendrik Poirier (Anthropology)
W. Jack Rink (Geography and Earth Sciences)
Shelley Saunders (Anthropology)
Henry Schwarzc (Geography and Earth Sciences)

The Interdisciplinary Minor in Archaeology is based on archeology and archaeology-related courses offered in the School of Geography and Earth Sciences, and in the Departments of Classics and Anthropology. It requires students to gain knowledge and understanding of a broad range of arts and sciences relevant to the practice of archaeology, but also permits students the flexibility to specialize in topics of particular interest within related disciplines. Students planning a minor in Archaeology may wish to take CLASSICS 1M03 (History of Greece and Rome).

COURSE LIST

ANTHROP 2C03 Environmental Crises in Archaeological Perspectives
ANTHROP 2FF3 Human Skeletal Biology and Bioarchaeology
ANTHROP 2G03 North American Prehistory
ANTHROP 2VV3 The Ancient Maya
ANTHROP 2W03 The Americas in Prehistory
ANTHROP 3AS3 Archaeology and Society
ANTHROP 3CA3 Ceramic Analysis
ANTHROP 3CC6 Archaeological Field School
ANTHROP 3DD3 Archaeology of Death
ANTHROP 3EE3 Special Topics in Archaeology I
ANTHROP 3EE4 Special Topics in Archaeology II
ANTHROP 3K03 Archaeological Interpretation
ANTHROP 3N03 Primate Evolution
ANTHROP 3PP3 Paleopathology
ANTHROP 3X03 Zoology
ANTHROP 4E03 Advanced Topics in Archaeology I
ANTHROP 4F03 Archaeological Theory
ANTHROP 4H03 Archaeology of Hunter-Fisher-Gatherers
ANTHROP 4R03 The Archaeology of the Roman City
CLASSICS 2B03 Greek Art
CLASSICS 2C03 Roman Art
CLASSICS 3Q03 Greek Sanctuaries
CLASSICS 3S03 The Archaeology of the Roman City

LIST A

CLASSICS 4B03 Seminar in Classical Archaeology
ENVIR 3G03 Earth and the Environment
GEO 2B03 Soils and the Environment
GEO 2E03 Earth History
GEO 2G03 Earth Surface Processes
GEO 2GG3 Natural Disasters
GEO 2103 GIS and Digital Cartography
GEO 3A03 Earth’s Changing Climate
GEO 3D03 Glacial Geology
GEO 3F03 Environmental Paleontology
GEO 3G03 Environmental Reconstruction Using Stable Isotopes
GEO 3V03 Environmental Geophysics
GEO 4E03 Coastal Environments
GEO 4F03 Topics of Field Research
GEO 4G03 Glacial Sediments and Environments
GEO 4L03 Advanced GIS (Geographic Information Systems)

REQUIREMENTS

24 units total
12 units ANTHROP 1B03 (or 1Z03, if completed prior to 1999), 2PA3, CLASSICS 1A03, ENVIR 3G03
12 units from Course List (see above). At least nine of the 12 units must be selected from outside the student’s own department.

Please see the Course Listings section for a detailed description of the above courses.

Jewish Studies

Jewish Studies is an international, multidisciplinary field devoted to the study of Judaism, Jewish history, thought, culture and community. The Minor in Jewish Studies is open to all students registered in a four- or five-level program in any Faculty. Students will be required to complete a minimum of 24 units from the lists below. At least 12 of these units will be taken from List A, comprised of courses focusing directly on an area of Jewish Studies. Students are urged to take at least six units of Hebrew language as part of their List A requirements. A minimum of six units will be taken from List B, comprised of courses which provide crucial background for understanding important issues in Jewish Studies.

Students are also encouraged to engage in a year of study in Israel, normally done in the third year of a four-year program. Details are available through the Department of Religious Studies, University Hall, Room 104, ext. 24567, or the Office of International Affairs, Alumni Memorial Hall, Room 203.

Students wishing to pursue a Minor in Jewish Studies may obtain more information from the Jewish Studies Minor Area Coordinator in the Department of Religious Studies, University Hall, Room 104.

LIST A

PHILOS 3003 The Bible As Literature
COMP LIT 3G03 The Literature of Israel and Palestine
HISTOR 4A03 Introduction to Biblical Hebrew I
HISTOR 4B03 Intermediate Biblical Hebrew I
HISTOR 4C03 Intermediate Biblical Hebrew II
HISTOR 4D03 The Jewish World in New Testament Times
HISTOR 4E03 Judaism, the Jewish People, and the Birth of the Modern World
HISTOR 4F03 Judaism and the Jewish People in the Twentieth Century
HISTOR 4G03 Modern Jewish Thought
RELIG ST 2B03 Women in the Biblical Tradition
RELIG ST 2C03 The Five Books of Moses
RELIG ST 3G03 Prophets of the Bible
RELIG ST 4A03 The Bible As Literature
RELIG ST 4B03 The Bible and Film
RELIG ST 4C03 Modern Jewish Thought
RELIG ST 4D03 The Jewish World in New Testament Times
RELIG ST 4E03 Jews, Christians, and Others in Antiquity
RELIG ST 4F03 The Bible through the Ages
Please see the Course Listings section for a detailed description of the above courses.

THEMATIC AREAS

The following listing is designed to assist you in choosing courses in areas of study, in which there is currently no B.A. program.

**Asian Studies**

While there is no B.A. program in Asian Studies, students interested in concentrating in this area may choose from among the following courses offered by various departments. Those desiring further information on these courses should consult the departmental listing in the Calendar.

Students wishing to pursue Asian Studies may obtain further information from Dr. D. Barrett, Chester New Hall, Room 625, ext. 24130.

**COURSES DEALING STRICTLY WITH ASIAN MATERIAL**

**ART HIST 3203** Art and Visual Culture in East Asia

**ART HIST 3203** Chinese Art and Visual Culture 200-750

**COMMERCE 45F3** Japanese Business

**GEO 3HJ3** Geography of Japan

**HISTORY 3A03** The Ottomans and the World around Them

**HISTORY 3A3A** The Modern Middle East

**HISTORY 3B03** Modern Japan

**HISTORY 3G53** China: a Revolutionary Century, 1895-1956

**HISTORY 4BB6** Modern Japanese

**HISTORY 4G66** Middle Eastern and Islamic History

**JAPAN ST 2A03** Japanese Communication

**POL SCI 2N03** Politics of India and South Asia

**RELIG ST 2F03** Storytelling in East Asian Religions

**RELIG ST 2I03** Storytelling in Indian Religion

**RELIG ST 2K03** Introduction to Buddhism

**RELIG ST 2L03** Life, Work and Teachings of Mahatma Gandhi

**RELIG ST 2P06** Japanese Civilization

**RELIG ST 2TT3** Religion and Popular Culture in Contemporary Japan

**RELIG ST 3AA3** Popular Religion in the Indian Tradition

**RELIG ST 3E03** Japanese Religion

**RELIG ST 3L03** The Indian Religious Tradition

**RELIG ST 3RR3** Taoism

**RELIG ST 3S03** The East Asian Religious Tradition

**RELIG ST 3U03** The Buddhist Tradition in India

**RELIG ST 3UU3** Buddhism in East Asia

**RELIG ST 4H03** Topics in Asian Religions

**THTR&FLM 2H03** The Contemporary Japanese Film

**HISTORY 2H3** Mediterranean Encounters 1500-1800

**POL SCI 4MM6** Topics in International Political Economy

**RELIG ST 1B06** World Religions

**RELIG ST 2BB3** Images of the Divine Feminine

**RELIG ST 2H03** Theory and Practice of Non-Violence

**RELIG ST 2O03** Cults in North America

**RELIG ST 2SS3** Women and Religion

**RELIG ST 2WW3** Health, Healing and Religion

**JAPANESE 1Z06** Beginner’s Intensive Japanese

**JAPANESE 2Z03** Intermediate Intensive Japanese I

**JAPANESE 2Z23** Intermediate Intensive Japanese II

**JAPANESE 3A03** Advanced Intensive Japanese I

**JAPANESE 3AA3** Advanced Intensive Japanese II

**JAPANESE 3B03** Business Japanese I

**JAPANESE 3CC3** Business Japanese II

**JAPANESE 4A03** Advanced Readings in Current Affairs in Japanese

**JAPANESE 4Z03** Advanced Oral Practice in Japanese

**JAPAN ST 4A03** Guided Reading in Japanese Studies

**JAPAN ST 4B03** Guided Reading in Japanese Studies

**SANSKRIT 3A06** Introduction to Sanskrit Grammar

**SANSKRIT 4B06** Readings in Sanskrit Texts

Please see the Course Listings section for a detailed description of the above courses.

**Canadian Studies**

There is no B.A. in Canadian Studies, but students interested in this area may choose from among the following courses, subject to meeting the prerequisites.

**HUMANITIES**

**ART HIST 3B03** Aspects of Canadian Art

**ENGLISH 2C03** Contemporary Canadian Fiction

**FRENCH 2E03** Literature of Quebec

**FRENCH 3A03** The Modern French-Canadian Novel

**FRENCH 4U03** Topics in French-Canadian Literature

**HISTORY 2T03** Survey of Canadian History, Beginnings to 1885

**HISTORY 2TT3** Survey of Canadian History, 1885 to the Present

**HISTORY 3G03** Business History: the Canadian Experience in International Perspective

**HISTORY 3NN3** Canada’s Revolutions: 1939-1982

**HISTORY 3P03** Religion and Society in Canada

**HISTORY 3W03** Women in Canada and the U.S. to 1914

**HISTORY 3WW3** Women in Canada and the U.S. from 1920

**HISTORY 3Y03** Death, Disease and Degeneration: a History of Health and Health Care in Canada

**MUSIC 3T03** Canadian Music

**SOCIAL SCIENCES**

**ANTHROP 3Y03** Aboriginal Community Health and Well-Being

**ECON 2K03** Economic History of Canada

**GEO 2MC3** Canada

**GEO 3HT3** Geography of Planning

**GEO 4H23** Urban Housing

**POL SCI 1G06** Politics and Government

**POL SCI 2D03** Canadian Citizenship: Institutional Foundations

**POL SCI 2F03** Politics, Power and Influence in Canada

**POL SCI 3FF3** Canadian Foreign Policy

**POL SCI 3GG3** Federalism: Theoretical, Constitutional and Institutional Issues

**POL SCI 3HH3** Inter-governmental Policy Issues in Canada

**POL SCI 3J03** Provincial Politics in Canada

**POL SCI 4O06** Canadian Public Policy

Please see the Course Listings section for a detailed description of the above courses.
PART-TIME DEGREE STUDIES

The University offers a broad range of educational opportunities if you wish to take degree studies on a part-time basis. In addition to the daytime offerings in the Fall/Winter there is a wide selection of evening classes available in the Fall/Winter and Spring/Summer sessions. There is a limited number of daytime classes scheduled for the Spring/Summer session.

If you take degree courses on a part-time basis, you will associate with one of the undergraduate Faculties (Business, Engineering, Health Sciences, Humanities, Science or Social Sciences). By so doing, you will have the opportunity to consult with the academic counsellors of your Faculty, and with the departments whose courses are of interest to you. If your interests change, it is often possible to transfer to another department or Faculty.

The courses which you take in the early stages of your education will form the basis for choosing your program of study. The Level I courses will give you the information you need for this purpose, as well as provide the prerequisites for more advanced courses and admission to programs of study. You should familiarize yourself with the requirements and information found in the following sections: Admission Requirements, General Academic Regulations and Sessional Dates, as well as the program descriptions found in the specific Faculty sections.

ADMISSION

Before you register for any degree course or program, you must apply for admission.

- If you have already completed some university, college, or other post-secondary education, you will be required to submit official transcripts of this work in order to be considered for admission and possible credit towards your McMaster program. High school transcripts are also required for consideration.
- If you satisfy the University's normal admission requirements for full-time study, you may choose to register for part-time study in most programs.
- If you do not satisfy these requirements, you may be admissible as a Mature Student and given the opportunity to show that you can deal successfully with university work. (Note: Mature Admission is not available to some faculties and/or programs).

See the Admission Requirements section in this Calendar for details concerning all avenues of admission to degree study.

AVAILABILITY OF COURSES

Although both daytime and evening courses are open to all students, as a part-time student, you may have other responsibilities which restrict you to the courses offered in the evenings, winter and summer. If you can arrange to take day courses in the Fall/Winter session, the options are greatly enlarged.

INFORMATION AND COUNSELLING

WEB ADDRESS: http://www.mcmaster.ca/parttime

Interested students may telephone the Office of the Registrar, Admissions, at (905) 525-4600 for information about application procedures and admission regulations. The Office is located in Gilmour Hall, Room 108, and is open Monday through Friday until 4:00 p.m.

More detailed information and advice concerning programs and courses is provided by the Academic Counsellors within each Faculty as follows:

- Business: ext. 23941
- Engineering: ext. 24846
- Humanities: ext. 27532
- Science: ext. 27590
- Social Sciences: ext. 23772

Information about non-degree courses and programs is available through the Centre for Continuing Education (905) 525-9140, ext. 24321 or at the following url: http://www.mcmaster.ca/conted/certificates.

MAPS

The McMaster Association of Part-time Students (MAPS) maintains an office and student lounge in the McMaster University Student Centre, Room 234, telephone (905) 525-9140, ext. 22021. MAPS also publishes a newsletter, The Link, which is sent to all part-time students. The office and lounge are open from Monday to Thursday, day and evening, and Friday during the day.

MAPS staff is available during these hours to help students. All part-time students are invited to use these facilities and to assist their Association in its efforts to improve the quality and range of educational opportunities available to students who can only attend university on a part-time basis.
CERTIFICATE AND DIPLOMA PROGRAMS

CENTRE FOR CONTINUING EDUCATION

Located at The Downtown Centre, 50 Main Street East, Hamilton, 2nd Floor, the Centre for Continuing Education offers Certificate and Diploma programs. Short courses and workshops for personal and professional development are also available. The Centre offers registration in degree courses as a Listener. For details, please contact the Centre for Continuing Education at extension 24321 or http://www.mcmastercce.com

CERTIFICATE AND DIPLOMA PROGRAMS APPROVED FOR ADVANCED CREDIT

All CCE Certificate and Diploma programs have been approved by the Senate of McMaster University for advanced credit, as shown below. Information regarding advanced credit for degree study is outlined in Graduates of McMaster Certificate/Diploma Programs in the Admission Requirements section of this Calendar.

ACCOUNTING, DIPLOMA  (8956)
Maximum Credit Toward Degree Studies - 24 units
This eleven-course program is designed for individuals planning a career in managerial or financial accounting. All courses satisfy program requirements for both the Certified Management Accountants of Ontario (CMA) and the Certified General Accountants Association (CGA).

ADDITION CAREWORKER, DIPLOMA  (8951)
Maximum Credit Toward Degree Studies - 24 units
The diploma requirements consist of 24 units of study organized in compulsory courses and skill and knowledge electives. The program meets the core education hours required by The Canadian Addiction Counsellors Certification Federation (CACCF) for professional certification.

ADDITION STUDIES, CERTIFICATE IN  (8922)
Maximum Credit Toward Degree Studies - 15 units
This 15 unit program is designed to provide elective studies in the field of addictions.

CASE MANAGEMENT, CERTIFICATE IN  (8939)
Maximum Credit Toward Degree Studies - 15 units
This six-course program is designed to develop and/or enhance the ability of health and social service professionals to perform case management functions in a variety of practice settings. Available in-class or on-line.

CERTIFIED CLINICAL RESEARCH ASSOCIATE, CERTIFICATE IN  (8924)
Maximum Credit Toward Degree Studies - 15 units
This five-course program is designed to develop the concepts, skills, strategies, attitudes and knowledge required to perform clinical trials.

CREATIVE WRITING, CERTIFICATE  (8941)
Maximum Credit Toward Degree Studies - 15 units
This program covers the fundamentals and advanced study of writing and publishing across many different genres. It has been developed in collaboration with the Faculty of Humanities and members of the local writing community.

FAMILY MEDIATION, CERTIFICATE/DIPLOMA IN  (8938/8948)
Maximum Credit Toward Degree Studies
- 15 units (Certificate)
- 24 units (Diploma)
This five-course (Certificate)/eight-course (Diploma) program offers a rewarding career opportunity for people in a variety of professions to either gain new experience or expand their skills and knowledge in the fields of alternative dispute resolution and family mediation.

HUMAN RESOURCES MANAGEMENT, DIPLOMA IN  (8958)
Maximum Credit Toward Degree Studies - 24 units
The Diploma in Human Resources Management will provide the knowledge and skills essential to succeed as a practitioner in Human Resources Management. This program offers all courses required to fulfill the academic requirement of HRPAO to become eligible to write the certification exam for the Certified Human Resources Professional (CHRP) designation.

MANAGEMENT STUDIES (GENERAL), DIPLOMA IN  (8929)
Maximum Credit Toward Degree Studies - 24 units
This eight-course program offered in association with the Michael G. DeGroote School of Business at McMaster is designed to develop and/or enhance the business management skills needed to function within a management position.

MANAGEMENT STUDIES (CONCENTRATION IN PROJECT MANAGEMENT, IT PROJECT MANAGEMENT, BUSINESS ANALYSIS OR SOURCING MANAGEMENT), DIPLOMA IN  (8928)
Maximum Credit Toward Degree Studies - 24 units
Offered in association with Nexient Learning, this program combines technical skills in a selected area of concentration with essential management topics.

METALLURGY OF IRON AND STEEL CERTIFICATE  (8991)
Maximum Credit Toward Degree Studies - 15 units
This six-course program comprehensively covers metallurgical principles involved in the extraction, refining and manufacturing of ferrous products.

POLICE STUDIES, DIPLOMA IN  (8921)
Maximum Credit Toward Degree Studies - 24 units
This program is designed to develop a capacity for critical inquiry at the university level, while augmenting the training received by police and security personnel.

WEB DESIGN AND DEVELOPMENT, CERTIFICATE/DIPLOMA IN  (8932/8930)
Maximum Credit Toward Degree Studies
- 15 units (Certificate)
- 24 units (Diploma)
This program focuses on the development of technical, design and communication skills as they relate to development in the field of website management.

PROFESSIONAL ASSOCIATIONS AND INSTITUTES

Many McMaster Certificate and Diploma credit courses are recognized as course equivalencies by the following external associations and institutes:
- Addiction Intervention Association (AIA)
- Association of Administrative Assistants (QAA)
- Canadian Addiction Counsellors Certification Federation (CACCF)
- Canadian Institute of Certified Administrative Managers (CAM)
- Canadian Institute of Management (CIM)
- Certified General Accountants Association of Ontario (CGA)
- Certified Management Accountants of Ontario (CMA)
- Credit Institute of Canada
- Credit Union Institute of Canada (CUIC)
- Global Risk Management Institute (CRM and FRM)
- Human Resources Professionals Association of Ontario (HRPAO)
- Institute of Canadian Bankers (ICB)
- Insurance Institute of Canada-Fellowship (FCIP)
- International Personnel Management Association (IPMA)
- Purchasing Management Association of Canada (PMAC)

Please contact the Centre for Continuing Education or visit http://www.mcmastercce.com for details.
SCHOOL OF GEOGRAPHY
AND EARTH SCIENCES

The part-time certificate program offered by the School of Geography and Earth Sciences can be completed in one or two years and is intended for students with basic academic or experiential training in GIS/Geomatics who wish to obtain a qualification in the theoretical and practical aspects of spatial analysis as well as in the more technical aspects of GIS. Further information can be obtained at http://sciwebserver.science.mcmaster.ca/gislab/programs/certificate/index.html or by contacting the GIS Laboratory, School of Geography and Earth Sciences at (905) 525-9140 ext. 22542.

CERTIFICATE IN GIS
(GEOGRAPHIC INFORMATION SYSTEMS)

The six-course certificate program provides expertise and applied skills in desktop GIS tools, remote sensing and spatial statistics for multidisciplinary applications. This program provides an introduction to geographic information systems (GIS) for students or professionals with no prior GIS experience.

For information concerning other Diploma programs offered at the University, please see the Post-Professional Health Sciences Education Programs in the Faculty of Health Sciences section as well as the Diploma in Music Performance in the Faculty of Humanities section of this Calendar.
## COURSE LISTINGS

The courses listed in this section include all courses approved for the undergraduate curriculum for the 2007-2008 academic year. Not all courses in the approved curriculum will be offered during the year. Students are advised to refer to the course timetables available annually in March, May and August to determine which specific courses will be offered in the upcoming sessions.

### POLICY ON ACCESS TO UNDERGRADUATE COURSES

McMaster's policy on access to Undergraduate courses is designed to ensure that resources are properly managed while enabling students to register in required courses so that their program admission requirements and course requisites can be met, and that their program of study is not extended.

1. Enrolment capacities are set on all undergraduate courses taking into account enrolment projections along with resources, enrolment trends and type of course (required or elective).
2. If need exceeds approved capacity, enrolment capacities for courses will be reviewed and may be adjusted.
3. Faculties and Department Offices are responsible for determining which courses require seats held back. These holdback seats must be managed so that students are able to complete program admission requirements, meet course requisites and register in courses required to meet their program of studies in a timely manner.
4. Where students are selecting from a list of required courses, access to a specific course is not guaranteed when there is another course available to meet a specific degree requirement.

### ANTHROPOLOGY

#### Faculty as of January 15, 2007

**Chair**

Aubrey Cannon

**Professors**

Aubrey Cannon/B.A. (Simon Fraser), Ph.D. (Cambridge)


Matthew Cooper/B.A. (Brooklyn College), M.Phil., Ph.D. (Yale)

Harvey Feit/B.A. (Queen’s), M.A. Ph.D. (McGill)

Laura Finsten/B.A. (Western Ontario), M.A. (Calgary), Ph.D. (Purdue)

D. Ann Herring/B.A. , M.A., Ph.D. (Toronto)

William L. Rodman/B.A. (Sydney), M.A., Ph.D. (Chicago)

Shelley Saunders/B.A., M.A., Ph.D. (Toronto)/F.R.S.C./Canada Research Chair in Human Disease and Population Relationships

**Adjunct Professors**

Regina Darnell/Western Ontario/ B.A. (Bryn Mawr), M.A., Ph.D. (Pennsylvania)

Christopher Ellner/Western Ontario/ B.A. (Waterloo), M.A. (McMaster), Ph.D. (Simon Fraser)

Ronald G. V. Hancock/B.Sc., M.Sc. (New Zealand), Ph.D. (McMaster)

**Associate Professors**


Eva Mackey/B.A. (Toronto), M.A., Ph.D. (Sussex)

Christina Moffat/B.Sc. (Toronto), B.A., Ph.D. (McMaster)

Hendrik Poinar/Ph.D. (Calif), M.Sc. (Calif), Ph.D. (Germany)

Petra Reithmann/B.A. (Vienna), M.A. (Munich), Ph.D. (McGill)

Wayne Werry/B.A., M.A. (McMaster), Ph.D. (ANU)

Dennis Wills/B.A. (Waterloo), M.A. (McMaster), Ph.D. (British Columbia)

**Adjunct Associate Professors**

Trudy Nicks/Royal Ontario Museum/ B.A., M.A., Ph.D. (Alberta)

Robert W. Park/Waterloo B.A. (Toronto), M.A. (McMaster), Ph.D. (Alberta)

Larry Sawchuk/Toronto B.A., M.A. (Manitoba), Ph.D. (Toronto)

### Assistant Professors

Maria-Iones Arrabi/B.A., M.A. (Western Ontario), Ph.D. (York)

Tracy Farmer/B.A., B.Sc. (McMaster), M.A. (Toronto), Ph.D. (McMaster)

Scott Martin/B.A. (McMaster), M.A. (Durham), Ph.D. (Cambridge)

Kostalena Micheliaki/B.A. (Greece), M.A., Ph.D. (Michigan)

Janet Padia/B.Sc., Ph.D. (Toronto)

### Associate Members

Darren Gröcke/Geography and Earth Sciences/ B.Sc. (Adelaide), M.Sc. (Monash), D.Phil. (Oxford)

Eugénie Reinhardtl/Geography and Earth Sciences/ B.A., Ph.D. (Carleton)

Celia Rothenberg/Religious Studies/ B.A. (Wellies College), M.S. (Oxford), Ph.D. (Toronto)

### Department Notes:

1. Not all Anthropology courses listed in this Calendar are taught every year. Students are advised to consult the department’s webpage and the timetable which is published annually by the Registrar's Office to determine whether a course is offered.
2. Registration in all courses with a course code ending ** listed as selected topics and independent research require prior arrangement with the instructor; otherwise, no grade will be submitted for the course.
3. To identify Anthropology courses by subdiscipline, students should refer to the lists of courses under Anthropology Subfields in the section Faculty of Social Sciences, Department of Anthropology.

### Courses

If no prerequisite is listed, the course is open.

**ANTHROP 1A03**

**INTRODUCTION TO ANTHROPOLOGY: CULTURE AND SOCIETY**

An introduction to the cross-cultural study of existing peoples, their ways of life, and the ways in which they interpret and experience the world. The course discusses a broad range of societies in order to explore some fundamental issues involving human knowledge and behaviour. Two hours (lecture), one hour (tutorial); one term

**ANTHROP 1B03**

**WORLD ARCHAEOLOGY**

An overview of the chronology and diversity of human prehistory. Examples of archaeological evidence from around the world are used to illustrate the long-term processes of cultural history. Two hours (lecture), one hour (tutorial); one term

**ANTHROP 1203**

**THE HUMAN SPECIES: BECOMING AND BEING HUMAN**

The study of the interaction between biology and culture. Topics may include: human origins, non-human primates, the concept of race, disease, sex and gender. Two hours (lecture), one hour (tutorial); one term

**ANTHROP 2A03**

**THE ANTHROPOLOGY OF FOOD AND NUTRITION**

An anthropological perspective on nutrition at the population level. Prehistoric, historic, and contemporary human nutrition, emphasizing links with the environment. Three hours (lectures and discussion); one term

Prerequisite: Three units of Level I Anthropology or HEALTHST 1A03

Cross-listed: HEALTHST 2A03

**ANTHROP 2B03**

**INDIGENOUS PEOPLES OF NORTH AMERICA**

A comparative study of selected cultures of this continent, dealing with traditional and modern situations. Three hours (lectures and discussion); one term

**ANTHROP 2C03**

**ENVIRONMENTAL CRISIS IN ARCHAEOLOGICAL PERSPECTIVES**

Examination of the influence of natural and human-induced environmental crises on long-term culture histories. Three hours (lectures and discussion); one term

Prerequisite: ANTHROP 1B03

**ANTHROP 2D03**

**GENETICS IN ANTHROPOLOGY**

An introduction to human genetics, microevolution and macroevolution. Three hours (one hour lecture, two hour lab); one term

Prerequisite: ANTHROP 1D03

(There will be a supplementary fee for supplies used in labs.)
An introduction to the study of human evolution and variability in living species of human and non-human primates. Three hours (lectures and discussion); one term
Prerequisite: Six units of Level I Anthropology

ANTHROP 2003 North American Prehistory
An examination of the origins and development of the major indigenous cultural groups of prehistoric North America. Three hours (lectures and discussion); one term
Prerequisite: Three units of Anthropology. ANTHROP 1B03 or 2PA3 is strongly recommended.

ANTHROP 2003 Peoples of the Pacific
Introduction to the peoples of the islands of the Pacific - their history, traditions and current ways of life, and their responses to contact, colonialism and cultural change. Focus will be equally upon the past and the present in Oceania. Three hours (lectures and discussion); one term

ANTHROP 2PA3 Introduction to Prehistoric Archaeology
An introduction to the goals and methods of archaeological research with a focus on specific problems in human prehistory. Three hours (lectures, labs, discussion); one term
Prerequisite: Three units of Level I Anthropology
This course is required of all students registered in an Honours Program in Anthropology.

ANTHROP 2A03 Religion, Magic, and Witchcraft
Selected issues in the study of religion, magic, and witchcraft; science, and the supernatural. Perspectives from history, psychology, and sociology also will be discussed. Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 1A03 or 2F03

ANTHROP 2V03 The Ancient Maya
An introduction to prehistoric Maya society and culture, with an emphasis on the Classic period civilization. Three hours (lectures); one term
Not open to students with credit in ANTHROP 2V03, AZTECS, MAYA AND INCA prior to September 2001.

ANTHROP 2W03 The Aztecs and Incas
An introduction to and comparison of the late pre-Columbian Aztec empire of Mexico and the Inca empire of Andean South America. Three hours (lectures); one term
Antirequisite: ANTHROP 2V03

ANTHROP 2X03 Violence in Anthropological Perspective
The aim of the course is to assess the extent to which violence is both controlled by and an expression of society and culture. Three hours (lectures and discussion); one term

ANTHROP 3A03 Phonology
A study of the patterns of distinctive sounds in the world's languages. Three hours (lectures); one term
Prerequisite: ANTHROP 2L03 or LINGUIST 2L03
Antirequisite: ANTHROP 2M03, LINGUIST 3A03
Cross-list: LINGUIST 3A03

ANTHROP 3A06 Archaeology and Society
A critical examination of the history of archaeology and the social and political implications of our understanding of the ancient human past. Three hours (lectures and discussion); one term
Prerequisite: Three units of Level I Anthropology

ANTHROP 3C03 Health and Environment: Anthropological Approaches
Examination of the ways in which humans alter and cope with their environment. Topics include: health inequalities, nutrition, population, urbanization, resource utilization, and industrial pollution. Three hours (lectures and discussion); one term
Prerequisite: Three units of Level I Anthropology or HEALTHST 1A03, and registration in Level III or IV of any program. ANTHROP 2E03 is strongly recommended.
Cross-list: HEALTHST 3C03

ANTHROP 3C36 Archaeological Field School
Field instruction in the techniques used in the excavation of an archaeological site. The course includes hands-on instruction in manual excavation methods, mapping, field recording, and laboratory analysis. Prerequisite: ANTHROP 2PA3 or an equivalent course in archaeological methods
Not open to students with credit in ANTHROP 3E03, if the topic was Prehistoric Archaeology.
ANTHROP 3DD3 ARCHAEOL OGY OF DEATH
Archaeological analysis and interpretation of burial practices and other death rituals.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3E03 SPECIAL TOPICS IN ARCHAEOLOGY I
2007-2008 Topic: Neolithic Europe
The topic varies with each instructor (e.g., one class may examine Ancient Mesopotamian Cities and another focus on The Archaeology of Hierarchy). Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3E33 SPECIAL TOPICS IN ARCHAEOLOGY II
As per ANTHROP 3E03.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3G03 COMPARATIVE MYTHOLOGY
The reconstruction of lost mythic traditions by means of comparative techniques drawn from historical linguistics. The Indo-European traditions of Eurasia will be examined.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2G03 or permission of the instructor

ANTHROP 3H03 ANTHROPOLOGICAL DEMOGRAPHY
This course offers an introduction to the study of population dynamics (birth, death, migration) and population structure. It focuses on issues particularly pertinent to anthropological studies of past and present populations.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2EO3

ANTHROP 3I03 SYNTAX
A study of how words are organized into sentences. The emphasis will be on the functional approach in comparison with other syntactic theories.
Three hours (lectures); one term
Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department
Cross-list: LINGUIST 3I03
Offered in alternate years.

ANTHROP 3J03 SEMANTICS
A study of patterns of meaning in language; a critical survey of current theories and issues.
Three hours (lectures); one term
Prerequisite: One of ANTHROP 3I03, 3M03, LINGUIST 3I03, 3R03, or 3M03, and six units of a language other than English; or permission of the Department
Cross-list: LINGUIST 3J03
Offered in alternate years.

ANTHROP 3L03 INDEPENDENT STUDY IN ANTHROPOLOGY
Independent study of a research problem through published materials and/or fieldwork. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course; otherwise, no grade will be submitted.
One term
Prerequisite: Registration in any program in Anthropology and permission of the instructor
ANTHROP 3L03 may be repeated, if on a different study, to a total of six units.

ANTHROP 3M03 MORPHOLOGY
The study of word formation in languages of the world; a critical survey of current theories and issues.
Three hours (lectures); one term
Prerequisite: One of ANTHROP 2LL3, LINGUIST 2LL3 or permission of the Department
Cross-list: LINGUIST 3M03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

ANTHROP 3N03 PRIMATE EVOLUTION
Comparative anatomy and evolutionary development of humans and our nearest living relatives, the other primates.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2E03
Antirequisite: ANTHROP 3NN3

ANTHROP 3N33 RESEARCH METHODS IN CULTURAL ANTHROPOLOGY
Methodologies and techniques of research, especially field study, in sociocultural anthropology.
Three hours (lectures and discussion); one term
Prerequisite: Registration in any program in Anthropology

ANTHROP 3PA3 PALEOPATHOLOGY
The origins and evolution of human diseases and methods of identifying disease in ancient human remains.
Three hours (lectures, discussion and lab); one term
Prerequisite: ANTHROP 2FF3

ANTHROP 3P03 GENETICS AND MODERN HUMAN ORIGINS
This course surveys genetic studies in anthropology and considers key issues in the field, such as the human genome diversity project.
Three hours (one hour lecture, two hour lab), one term
Prerequisite: ANTHROP 2DO3 or BIOLOGY 3J03
(There will be a supplementary fee for supplies used in labs.)

ANTHROP 3R03 THE ANTHROPOLOGY OF GENDER
Selected topics relating to the construction and practice of gender in various cultural contexts.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of any Anthropology program

ANTHROP 3T03 POWER AND RESISTANCE
A critical examination of power in post-colonial conflicts. Examines concepts and case studies of local resistance to economic globalization, the re-defining of nationalities, and the spread of universalizing cultures.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Social/Cultural Anthropology

ANTHROP 3V03 ANTHROPOLOGY AND THE HISTORICAL IMAGINATION
This course is situated at the intersection of history and anthropology, and focuses especially on the ways in which social actors represent, give meaning to, and strategically employ constructions of the past.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2F03 and registration in any program in Anthropology

ANTHROP 3W03* SPECIAL TOPICS IN ARCHAEOLOGY II
The topic varies with each instructor (e.g., one class may examine Current Issues in Medical Anthropology and other classes may focus on Readings in Myth or Contemporary Issues in Archaeology).
One term
Prerequisite: Registration in any program in Anthropology

ANTHROP 3X03 ZOOARCHAEOL OGY
Study of the long-term histories of human-environment interaction through analysis of archaeologically recovered animal remains.
Three hours (labs and discussion); one term
Prerequisite: ANTHROP 2PA3

ANTHROP 3Y03 ABORIGINAL COMMUNITY HEALTH AND WELL-BEING
A critical examination of the determinants of health in Aboriginal communities, processes of community revitalization, and recent government policy initiatives.
Three hours (lecture and discussion); one term
Cross-list: HEALTHST 3Y03

ANTHROP 3Z03 ARCHAEOLOGY OF DEATH
Archaeological analysis and interpretation of burial practices and other death rituals.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2PA3
ANTHRO 3203 MEDICAL ANTHROPOLOGY: THE BIOMEDICAL APPROACH
Patterns of stress and disease with emphasis on pathobiomedical approach. Disease in the evolutionary context with emphasis on disease as a failure of adaptation and response.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of any program. ANTHRO 2E03 or 2F03 is strongly recommended.

ANTHRO 32Z3 MEDICAL ANTHROPOLOGY: SYMBOLIC HEALING
An interdisciplinary approach to traditional systems of healing such as Greek humeral medicine, Chinese, Shamanic, etc. Emphasis will be on cultural and psychological parameters of healing.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of any program. ANTHRO 2E03 or 2F03 is strongly recommended.

ANTHRO 4A03 ANTHROPOLOGY AND ENVIRONMENT
This course examines the different and rapidly changing ways in which anthropologists study relationships between humans and their environments. It also considers the contributions which anthropologists are making to environmentalism and knowledge about current ecological issues.
Three hours (seminar); one term
Prerequisite: ANTHRO 2F03 and registration in an honours program, or permission of the instructor.

ANTHRO 4B03 CURRENT PROBLEMS IN ANTHROPOLOGY I
2007-2008 Topic: Ethics in Anthropological Research
The topic varies with each instructor.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology or permission of the instructor.
ANTHRO 4B03 may be repeated, if on a different topic, to a total of six units.

ANTHRO 4B03 CURRENT PROBLEMS IN ANTHROPOLOGY II
2007-2008 Topic: Museum Anthropology
As per ANTHRO 4B03.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Anthropology.
ANTHRO 4B03 may be repeated, if on a different topic, to a total of six units.

ANTHRO 4D03 APPLIED ANTHROPOLOGY
An examination of how anthropology is applied to solve human problems. Includes discussion of how students can use their anthropological training in non-academic occupations. Students may be involved in academic placements within the community.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV Honours Anthropology.

ANTHRO 4E03 ADVANCED TOPICS IN ARCHAEOLOGY I
Study at an advanced level of selected topics in the sub-discipline. Topics may change from year to year.
Three hours (seminar); one term
Prerequisite: ANTHRO 2PA3.

ANTHRO 4E03 ADVANCED TOPICS IN ARCHAEOLOGY II
As per ANTHRO 4E03; but on a different topic.
Three hours (seminar); one term
Prerequisite: ANTHRO 2PA3.

ANTHRO 4F03 ARCHAEOLOGICAL THEORY
A seminar in current topics and issues in archaeological theory.
Three hours (lectures and discussion); one term
Prerequisite: ANTHRO 2PA3 and registration in any honours program.

ANTHRO 4G03 INDEPENDENT RESEARCH I
Independent study of a research problem through published materials and/or fieldwork. Study may include museum internship, participation in faculty research, or student-initiated practice or library research. Students will be required to write up the results of their inquiry in scholarly form. It is incumbent upon the student to secure arrangements with the supervising instructor prior to registration in this course, otherwise, no grade will be submitted.
One term
Prerequisite: Registration in any program in Anthropology.

ANTHRO 4G03* INDEPENDENT RESEARCH II
As per ANTHRO 4G03, but on a different topic.
One term
Prerequisite: Registration in Level IV Honours Anthropology.

ANTHRO 4H03 HUMAN EVOLUTIONARY GENETICS
The use of population genetics for resolving the origins of modern humans.
Three hours (seminar); one term
Prerequisite: ANTHRO 3R03
Priority will be given to Level IV Honours Anthropology students.

ANTHRO 4H03* ARCHAEOLOGY OF HUNTER-FISHER-GATHERERS
Study of the prehistoric technologies and organizational strategies used in making a living from the natural environment, and examination of the cultural contexts of foraging economies.
Three hours (seminar); one term
Prerequisite: ANTHRO 2PA3.

ANTHRO 4I03 CONTEMPORARY ANTHROPOLOGICAL THEORY
Seminar on selected recent developments in anthropological theory.
Three hours (seminar); one term
Prerequisite: ANTHRO 3L03 and registration in Level IV Honours Anthropology.
Access will be provided to all Level IV Honours Anthropology students.

ANTHRO 4J03 ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY I
Study at an advanced level of selected topics in the sub-discipline. Topics may change from year to year.
Three hours (seminar); one term
Prerequisite: ANTHRO 2E03.
ANTHRO 4J03 may be repeated, if on a different topic, to a total of six units.

ANTHRO 4J03 ADVANCED TOPICS IN PHYSICAL ANTHROPOLOGY II
As per ANTHRO 4J03.
Three hours (seminar); one term
Prerequisite: ANTHRO 2E03.
ANTHRO 4J03 may be repeated, if on a different topic, to a total of six units.

ANTHRO 4L03 ADVANCED PHONETICS, PHONOLOGY AND MORPHOLOGY
This course will examine advanced issues in phonetics, phonology and morphology, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the world. Three hours (lectures and discussion); one term
Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)
Cross-list: LINGUIST 4L03.
Antirequisite: ANTHRO 4LA3, LINGUIST 4LA3.
This course is administered by the Department of Linguistics and Languages.

ANTHRO 4L03 ADVANCED SYNTAX AND SEMANTICS
This course will examine advanced issues in syntax and semantics, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is strongly data oriented, with material taken from several languages of the world. Three hours (lectures and discussion); one term
Prerequisite: Nine units of Linguistics or Linguistic Anthropology Courses above Level I. (See Department of Anthropology in the Faculty of Social Sciences section in this Calendar)
Cross-list: LINGUIST 4L03.
Antirequisite: ANTHRO 4LA3, LINGUIST 4LA3.
This course is administered by the Department of Linguistics and Languages.

ANTHRO 4M03 ADVANCED TOPICS IN MYTHOLOGY
A seminar in current topics and issues in comparative mythology.
Three hours (seminar); one term
Prerequisite: ANTHRO 2G03, 3G03 and registration in any Honours program.

ANTHRO 4N03 ANTHROPOLOGY AND EDUCATION
A comparison of the formal and informal ways in which people learn within their cultural context, and a survey of the uses of anthropology in schools.
Three hours (seminar); one term
Prerequisite: Registration in any Honours program in the Faculty of Social Sciences.
ANTHROP 4Q03  GLOBAL PROCESSES AND LOCAL CONSEQUENCES
The seminar seeks: 1) to discern the linkages between some of the main processes at work in global systems; 2) to discuss in what ways these processes are global and in what ways they are systematic; 3) to develop hypotheses for the framework of global scale social theory.
Three hours (seminar); one term
Prerequisite: Registration in any Honours program in the Faculty of Social Sciences

ANTHROP 4R03  SKELLETAL BIOLOGY OF EARLIER HUMAN POPULATIONS
The analysis of human skeletal samples, including such topics as paleopathology, paleodemography, paleonutrition and biological distance analyses.
Three hours (lectures and discussion); one term
Prerequisite: ANTHROP 2FF3
Antirequisite: ANTHROP 3C06

ANTHROP 4S03  THE ANTHROPOLOGY OF INFECTIOUS DISEASE
The critical examination of the role of infectious diseases in the course of human history and contemporary society. Self-directed learning format.
Three hours (seminar); one term
Prerequisite: ANTHROP 2E03 and registration in Level IV Honours Anthropology

ANTHROP 4X03  ADVANCED TOPICS IN LINGUISTIC THEORY
Issues in different aspects of Linguistic Theory and Advanced Philology. Consult the Department of Linguistics and Languages for the topic to be offered.
Two hours (seminar); one term
Prerequisite: One of ANTHROP 3L03, 3M03, LINGUIST 3L03, 3M03 Cross-list: LINGUIST 4X03
ANTHROP 4X03/LINGUIST 4X03 may be repeated, if on a different topic, to a total of six units.
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

ART
WEB ADDRESS: http://www.humanities.mcmaster.ca/~sota/
Togo Salmon Hall, Room 414 Ext. 27671

Courses and programs in Art are administered within the School of the Arts of the Faculty of Humanities.

Note:
Art courses are open only to students registered in a program in Honours Art.

Courses

ART 1F03  STUDIO FUNDAMENTALS I
Module one: colour studies, theoretical and practical application of colour. Module two: Dimensional studies: an exploration of form and space. Lectures, critiques and studio practice (four hours); one term
Prerequisite: Portfolio interview (See below.)
Antirequisite: ART 1F06

ART 1FF3  STUDIO FUNDAMENTALS II
Module one: research studies, strategies inherent within visual practice. Module two: drawing studies, the development of drawing practice. Lectures, critiques and studio practice (four hours); one term
Prerequisite: ART 1F03
Antirequisite: ART 1FF6

Honours Art programs have limited enrolments. Entrance to any Honours Art program requires the permission of the School of the Arts as these programs and courses have limited enrolments and successful completion of ART 1F03 and 1FF3. Students who wish to enrol in ART 1F03 and 1FF3 in Level I must first complete a portfolio interview to be eligible for permission to register in these courses. The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. Exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs. Portfolio interviews occur between January and April each year for entrance in September of the same calendar year. Only those students who call the Office of the School of the Arts (905-525-9140 ext. 27671) before March 1st to book appointments for portfolio interviews will be guaranteed consideration for entrance into ART 1F03 and 1FF3. (Late applicants will only be interviewed if space availability permits).

Permission to register in ART 1F03 and 1FF3 will be verified with written confirmation from the School of the Arts. School of the Arts verification and a letter of Acceptance to Humanities I from the University will guarantee a space in the program as long as the student meets the minimum academic requirements as outlined under School of the Arts programs in the Faculty of Humanities section of the Calendar. Applicants for Art should use the MHA OUAC code. The portfolio should contain a variety of works in different media that represent the applicant's creative abilities and interests. Aptitude in art, academic ability and demonstrated commitment to the discipline are considered in the selection process. Exceptional circumstances, where distance does not allow for an interview, portfolios may be submitted in the form of colour slides or photographs. Corequisite: SCIENCE 1A00. Students registering in ART 1F03 must also register in SCIENCE 1A00 when completing their registration. Students who receive advanced credit for ART 1F03 must also register in SCIENCE 1A00 when registering in ART 1F03.

ART 2A03  INTRODUCTORY PAINTING I
A series of studio projects designed to inform and expand the student's technical and conceptual abilities in painting.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2A06

ART 2AA3  INTRODUCTORY PAINTING II
A continuation of studio projects designed to provide technical and conceptual investigations in the field of painting.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2A06

ART 2B03  INTRODUCTORY SCULPTURE I
A series of three-dimensional studio projects designed to provide technical and conceptual abilities in the field of sculpture.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2B06

ART 2BB3  INTRODUCTORY SCULPTURE II
A continuation of three-dimensional studio projects designed to provide technical and conceptual investigations in the field of sculpture.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2B06

ART 2CC3  INTRODUCTORY DRAWING I
A series of studio projects designed to inform and expand the student's technical and conceptual abilities in drawing.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2C06

ART 2CD  INTRODUCTORY DRAWING II
A continuation of studio projects designed to provide technical and conceptual investigations in the field of drawing.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2C06

ART 2F03  INTRODUCTORY PRINTMAKING I
A series of studio projects designed to inform and expand the student's technical and conceptual abilities in printmaking.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2F06

ART 2FF3  INTRODUCTORY PRINTMAKING II
A continuation of studio projects designed to provide technical and conceptual investigations in the field of printmaking.
Four hours; one term
Prerequisite: ART 1F03, 1FF3 (or 1F06)
Antirequisite: ART 2F06
ART 3003  PRACTICAL ISSUES IN STUDIO ART
This course is designed to familiarize students with a range of topics associated with the professional and practical aspects of producing art. This course utilizes the McMaster Museum of Art collections as a research base for studio production.
Three hours; one term
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

ART 3E06  STUDIO PRACTICE AND CRITICISM
This course introduces self-directed studio study.
Weekly critiques, evening Visiting Artists’ lectures; two terms
Prerequisite: Registration in Level III Honours Art or Combined Program with Honours Art and a grade of at least B- in a minimum of six units of Level II Art

ART 3F03  INTEGRATED DRAWING AND PRINT MEDIA
This course enables advanced level studio exploration via the interconnections between print media and drawing which may include production of an image in multiple states and integration of a diverse range of two dimensional processes.
Four hours; one term
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

ART 3G03  INTERDIMENSIONAL STUDIES IN PAINTING AND SCULPTURE
This course enables advanced level studio exploration via the interconnections between sculpture and painting which may include the exchange between three dimensional and two dimensional concepts of colour in painted reliefs, polychrome works and installations.
Four hours; one term
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

ART 3H03  INTEGRATED PAINTING AND PRINT MEDIA
This course enables advanced level studio exploration via the interconnections between print media and painting which may include: photo-based image making, cyanotypes, stencilling, hand-painted monotypes, etc.
Four hours; one term
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

ART 3I03  INTERDIMENSIONAL STUDIES IN SCULPTURE AND DRAWING
This course enables advanced level studio exploration via the interconnections between sculpture and drawing and may include exploration in media such as two dimensional studies for three dimensional productions, installation designs, etc.
Four hours; one term
Prerequisite: Registration in Level III Honours Art or a Combined Program with Honours Art

ART 4C06  MINOR STUDIO PROJECT
This course combines advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.
Weekly critiques, evening Visiting Artists’ lectures; two terms
Prerequisite: Registration in Level IV of a Combined Honours Art and Another Subject Program and a grade of at least B- in ART 3E06
Antirequisite: Credit or registration in ART 4E12

ART 4E12  ADVANCED STUDIO PRACTICE AND CRITICISM
This course combines an intensive block of advanced level, self-directed studio study with critique sessions and a visiting artist lecture series.
Weekly critiques, evening Visiting Artists’ lectures; two terms
Prerequisite: Registration in Level IV of any Honours Art Program and a grade of at least B- in ART 3E06
Antirequisite: ART 4C06

ART HISTORY
Courses and programs in Art History are administered within the School of the Arts of the Faculty of Humanities.

Courses

ART HIST 1A03  INTRODUCTION TO THE STUDY OF ART
A course that introduces students to the visual arts through a consideration of principles and elements of painting, sculpture and architecture and a discussion of various genres.
Two lectures, one tutorial; one term

ART HIST 1AA3  INTRODUCTION TO THE HISTORY OF ART
A brief overview of the Western artistic tradition as embodied in the history of painting, sculpture and architecture.
Two lectures, one tutorial; one term

ART HIST 2A03  VISUAL LITERACY
A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.
One lecture (two hours), one tutorial/discussion; one term
Prerequisite: Registration in Level II or above
Cross-list: CMST 2003

ART HIST 2B03  GREEK ART
The architecture, sculpture and painting of the Greek and Hellenistic worlds.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 2B03
This course is administered by the Department of Classics.

ART HIST 2C03  ROMAN ART
The architecture, sculpture and painting of the Roman world.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 2C03
This course is administered by the Department of Classics.

ART HIST 2D03  19TH- AND 20TH-CENTURY ART AND VISUAL CULTURE
A study of art and visual culture from c. 1850 to c. 1970 and an examination of critical frameworks such as modernism and postmodernism.
Three lectures; one term
Prerequisite: Registration in Level II or above

ART HIST 2F03  THE HISTORY OF GRAPHIC DESIGN
An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.
Three lectures; one term
Prerequisite: Registration in Level II or above. Prior completion of ART HIST 1A03 and 1AA3 is recommended
Cross-list: CMST 2N03, MMEDIA 2F03
This course is administered by the Department of Communication Studies & Multimedia.

ART HIST 2G03  FILM HISTORY TO THE SECOND WORLD WAR
An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema’s development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.
Two lectures, plus one weekly film screening; one term
Prerequisite: Registration in Level II or above
Cross-list: THTR&FLM 2G03
Antirequisite: CMST 2X03, DRAMA 2X06
This course is administered by Theatre & Film.

ART HIST 2H03  AESTHETICS
An introduction to some main theories of the nature of art, criticism and the place of art in life and society.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: CMST 2H03, PHILOS 2H03
Offered in alternate years.
This course is administered by the Department of Philosophy.

ART HIST 2I03  RENAISSANCE AND BAROQUE ART
An introduction to the history of European art in the period 1400 to 1750.
Three lectures; one term
Prerequisite: Registration in Level II or above

ART HIST 2J03  ART AND VISUAL CULTURE IN EAST ASIA
An introduction to the history of the arts in China, Korea and Japan from antiquity to modern times, highlighting the impact of cultural exchange and diversity.
Three lectures; one term
Prerequisite: Registration in Level II or above
ART HIST 3AA3  CONTEMPORARY ART AND VISUAL CULTURE
An examination of international art and visual culture applying theoretical approaches such as modernism, postmodernism, feminism, masculism, post-colonial and queer theories.
Three lectures; one term
Prerequisite: ART HIST 2D03 and registration in Level II or above
Alternates with ART HIST 3D03.
ART HIST 3B03  ASPECTS OF CANADIAN ART
A survey of the visual arts in Canada from the earliest explorations and settlements to the present.
Three lectures; one term
Prerequisite: Registration in Level III or IV of any program
Alternates with ART HIST 3B03.
ART HIST 3D03  17TH-CENTURY ART.
An examination of art and architecture produced in the seventeenth century and global variations of Baroque Art.
Three lectures; one term
Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2103 is recommended
Alternates with ART HIST 3B03.
ART HIST 3G03  LATE ANTIQUE AND EARLY CHRISTIAN ART
The art and architecture of the later Roman Empire and the birth of Christian Art (A.D. 200-600).
Three lectures; one term
Prerequisite: ART HIST 2C03
Cross-list: CLASSICS 3G03
Alternates with ART HIST 3H03.
This course is administered by the Department of Classics.
ART HIST 3H03  ARCHAIC GREEK ART
The formative period of Greek Art from its rebirth after the Dark Ages to the Persian Wars (c. 1000-480 B.C.) and its relationship to the art of the Near East.
Three lectures; one term
Prerequisite: ART HIST 2B03
Cross-list: CLASSICS 3H03
Alternates with ART HIST 3G03.
This course is administered by the Department of Classics.
ART HIST 3I03  ITALIAN PAINTING AND SCULPTURE 1400-1580
An advanced level lecture course dealing with selected artists and works from the Early Renaissance to Mannerism.
Three lectures; one term
Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2103 is recommended
Alternates with ART HIST 3S03.
ART HIST 3J03  ISSUES IN 19TH-CENTURY ART AND VISUAL CULTURE
An historical and critical investigation of selected issues and artists of the 19th Century.
Three lectures; one term
Prerequisite: ART HIST 2D03 and registration in Level II or above
Alternates with ART HIST 3AA3.
ART HIST 3L03  THEORIZING CULTURE THROUGH PERFORMANCE
Students will explore artists’ practices in making performances and will analyze how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.
Three hours; one term
Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2F03
Cross-list: CMST 3L03, THTR&FLM 3L03
Not open to students with credit in DRAMA 2B02, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002 or credit in THTR&FLM 2E03 if taken in 2002-2003.
This course is administered by Theatre & Film.
Offered in alternate years.
ART HIST 3P03  ISSUES IN STUDY CRITICISM
A course that allows non-Art students to explore current studio practice and to investigate approaches to the evaluation of quality in contemporary art. Students taking this course are required to attend a preset number of Studio Critiques and Visiting Artists’ Talks
Seminar (two hours); one term
Prerequisite: Registration in Level III of an Art History program
*Studio Art Critiques are regularly scheduled sessions during which the work of Art students is discussed by their peers, faculty members and visiting professionals from the art world. Visiting Artists’ talks are held on weekday evenings on the same day as the Studio Critiques.
ART HIST 3Q03  ART AND CIVILIZATION AT THE DAWN OF THE ITALIAN RENAISSANCE 1200-1400
A study of Italian art and civilization in the age of transition between the Middle Ages and the Renaissance.
Three lectures; one term
Prerequisite: Registration in Level II or above. Prior completion of ART HIST 2103 is recommended
Alternates with ART HIST 3J03.
ART HIST 3X3  FILM HISTORY: 1941 TO THE PRESENT
An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema’s relationships to other art forms, narrative, genre and authorship.
Two lectures, plus one weekly film screening; one term
Prerequisite: ART HIST 2G03
Cross-list: THTR&FLM 3L03
Antirequisite: CMST 3X3
Offered in alternate years.
This course is administrated by Theatre & Film.
ART HIST 3Z03  CHINESE ART AND VISUAL CULTURE 200-750
An examination of how recent archaeological finds are re-defining our understanding of the pluralistic achievements in various arts during the transformative Period of Disunity leading to the Golden Age in China.
Three lectures; one term
Prerequisite: ART HIST 2G03
*Offered in alternate years.
ART HIST 4A03  SEMINAR IN CONTEMPORARY ART AND VISUAL CULTURE
An in-depth examination of one or more significant movements in contemporary art, theory and criticism from c. 1970 to the present.
Seminar (two hours); one term
Prerequisite: ART HIST 3AA3 and permission of the School of the Arts
Offered in alternate years.
ART HIST 4B03  SEMINAR IN ANCIENT ART
Consult the School of the Arts concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: ART HIST 2B03, 2C03 and registration in Level III or IV of an Honours program in Art History
Cross-list: CLASSICS 4B03
ART HIST 4BB3 may be repeated, if on a different topic, to a total of six units.
This course is administered by the Department of Classics.
ART HIST 4C03  SEMINAR IN ART AND VISUAL CULTURE 900-1400
A focused study of issues concerning art and visual culture of the tenth through fourteenth centuries. Consult the School of the Arts concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3103, 3S03 or 3Z03 is recommended.
Offered in alternate years.
ART HIST 4C03 may be repeated, if on a different topic, to a total of six units.
ART HIST 4E03  SEMINAR IN ART AND VISUAL CULTURE 1400-1750
A focused study of issues concerning art and visual culture of the fourteenth through eighteenth centuries. Consult the School of the Arts concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3D03, 3I03 or 3S03 is recommended.
Offered in alternate years.
ART HIST 4E03 may be repeated, if on a different topic, to a total of six units.
ART HIST 4G03  SEMINAR IN ART AND VISUAL CULTURE 1750 TO THE PRESENT
A focused study of issues concerning art and visual culture of the eighteenth through twentieth centuries. Consult the School of the Arts concerning the topic to be offered.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of an Honours program in Art or Art History. Prior completion of one of ART HIST 3AA3 or 3J03 is recommended.
Offered in alternate years.
ART HIST 4G03 may be repeated, if on a different topic, to a total of six units.
ARTS AND SCIENCE

WEB ADDRESS: http://www.mcmaster.ca/artsci
Commons Building, Room 105
Ext. 24655 or 23153

Director
Peter G. Sutherland

Council of Instructors as of January 15, 2007

Betsy Agar
James Benn (Religious Studies)
John D. Browning (Linguistics and Languages)
Aaron Childs (Mathematics and Statistics)
Augie Fleras
Nibaldo H. Galleguillos (Political Science)
Kathleen Garay (Women's Studies and History)
Jonathen Geen (Religious Studies)
Louis I. Greenspan (Religious Studies)
William E. Harris (Physics and Astronomy)
Robert Henderson (Kinesiology)
Atif Kubursi (Economics)
Miroslav Lovric (Mathematics and Statistics)
Sara H. Mendelson (Arts and Science)
Carmel E. Mothersill (Medical Physics and Applied Radiation Sciences)
Ann Pearson (Religious Studies)
Patangi K. Rangachari (Medicine)
Annette Reed (Religious Studies)
Victor Satzewich (Sociology)
Deborah Schrader
Colin B. Seymour (Medical Physics and Applied Radiation Sciences)
Peter G. Sutherland (Physics and Astronomy)
Matthew Valeriote (Mathematics and Statistics)
Roman Viveros-Aguiar (Mathematics and Statistics)
Mark Vorobieff (Philosophy)
Mark Walker (Philosophy)
Jean Wilson (Linguistics and Languages, Comparative Literature and Arts & Science)

Notes:
1. Prerequisites: The prerequisite for all Level I, II, III and IV Arts & Science courses is registration in the Arts and Science Program.
2. Limited Enrolment: Enrolment in Level I of the Arts and Science Program is limited to approximately 60 students.

Courses

ARTS&SCI 1A06 WESTERN CIVILIZATION
An examination of significant themes in Western social and intellectual history, including theories of historical change and the influence of class, race and gender on the evolution of social systems.

ARTS&SCI 1B06 WRITING AND INFORMAL LOGIC
The primary aim of this course is to develop the student's critical and analytical skills in dealing with the written word. Students will examine the structure of selected texts, analyze various types of reasoning and receive individual attention in expository writing.

ARTS&SCI 1C06 INQUIRY
This inquiry course, designed to develop skills basic to the systematic evidence-based investigation of public issues, focuses on issues relevant to Third World Development.

ARTS&SCI 1D06 CALCULUS
This course aims to provide a thorough understanding of the principles and major applications of differential and integral calculus of functions of one variable, as well as an introduction to multivariate calculus and differential equations.

ARTS&SCI 1E03 MOLECULAR PHYSIOLOGY
Historical examples will be used to explore cellular signalling mechanisms. The course will blend didactic and problem-based approaches.

ARTS&SCI 2A06 MODERN WESTERN CIVILIZATION
Development of political, moral and religious thought in the writings of such major figures as Hobbes, Locke, Rousseau, Adam Smith, Burke, Marx, Mill, Weber, von Hayek, Nietzsche, Freud and Arendt.

ARTS&SCI 2D06 PHYSICS
This course explores many of the great concepts of physics in a quantitative way. Beginning with Newtonian mechanics, it moves into Einstein’s relativity, wave phenomena, atomic physics, quantum mechanics and cosmology. Selected laboratory projects will be carried out.

ARTS&SCI 2R06 STATISTICS: MATHEMATICAL MODELS FOR CHANGE, CHANCE AND ERROR
Probability, distributions, measures of association, tests of significance, mathematical models and other quantitative methods useful in the analysis of variable phenomena, are considered.

ARTS&SCI 3A06 LITERATURE
Literary works drawn from a variety of genres, cultures and historical periods will be examined with a focus on how great writers have treated enduring ethical concerns. It aims to show how literature is an indispensable means of thinking about human life and society.

ARTS&SCI 3B03 TECHNOLOGY AND SOCIETY I
The Culture of Technology. Technological practices and approaches are studied as cultural activities in the contexts of beliefs, philosophies, values and social structures both past and present.

ARTS&SCI 3BB3 TECHNOLOGY AND SOCIETY II
The Social Control of Technology. The dominant mechanisms of the social control of technology will be studied. Includes an examination of assessment methods and the role of ethics.

ARTS&SCI 3CB6 INQUIRY TOPIC: ENVIRONMENTAL EDUCATION
Environmental crisis will be explored as a crisis of western culture’s inability to live in a harmonious relationship with the earth. Intentional communities will be a focus with a residential field experience.

ARTS&SCI 3CE6 INQUIRY TOPIC: MEDIA
This course consists of four sections dealing with theoretical and analytical perspectives, political economy of the media, news media and entertainment media and their cultural effects.

ARTS&SCI 3CF3 INQUIRY TOPIC: DISCOVERY
Using an issue-based approach, the antecedents and consequences of scientific discoveries will be explored, focusing on themes such as the role of imagination in leading scientific discovery.
**ARTS & SCI 3C13**
**INQUIRY TOPIC:**
**DIVERSITY AND MULTICULTURALISM I**
The social and economic impact in Canada of factors such as race, gender and culture will be explored from an historical perspective.

**ARTS & SCI 3C14**
**INQUIRY TOPIC:**
**DIVERSITY AND MULTICULTURALISM II**
This course will focus on issues of diversity in Canada with respect to the Canadian model of multiculturalism and how it relates to other models, e.g. European, Australian and American models.

**ARTS & SCI 3C3K**
**INQUIRY TOPIC:**
**CLIMATE CHANGE AND GLOBAL WARMING**
An exploration of the evidence for climate change, the consequences of and timeline(s) for global warming and credible options for mitigating negative outcomes.

**ARTS & SCI 3EE3**
**EXPERIENTIAL LEARNING STUDY I**
Experiential study under the supervision of a McMaster faculty member, including a presentation at a final defence.

**ARTS & SCI 3L03**
**THE INDIAN RELIGIOUS TRADITION**
Readings of Indian texts in translation will centre around themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.

**ARTS & SCI 4A06**
**INDIVIDUAL STUDY**
This course consists of study under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program Office.

**ARTS & SCI 4A12**
**INDIVIDUAL STUDY**
The same as ARTS & SCI 4A06 but based on more extensive study.

**ARTS & SCI 4C06**
**THESIS**
This course consists of original research under the supervision of a McMaster faculty member. Proposal deadline is March 1; information package is available in the Program Office.

**ARTS & SCI 4C12**
**THESIS**
The same as ARTS & SCI 4C06 but based on more extensive research.

**ARTS & SCI 4EE3**
**EXPERIENTIAL LEARNING STUDY II**
Experiential study under the supervision of a McMaster faculty member, including presentation at a final defence.

**ASIAN STUDIES**
(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

**ASTRONOMY**
(SEE PHYSICS AND ASTRONOMY)
Courses

**BIOCHEM 2B03**  
NUCLEIC ACID STRUCTURE AND FUNCTION  
Fundamental concepts and experimental methods in studying both DNA and RNA. Nature of genetic information and its storage. Molecular basis of replication, transcription and translation.  
Three lectures; first term  
Prerequisite: BIOLOGY 1A03, CHEM 1A3A; and credit or registration in CHEM 2B3A or 20A3  
Prerequisite: (Beginning 2008-2009): BIOLOGY 1A03, CHEM 1A3A; and credit or registration in CHEM 2B3A or 20A3; and registration in Honours Biochemistry, Honours Molecular Biology or Honours Physics (Biophysics Specialization)  
Antirequisite: BIOCHEM 3BT3, 3G03

**BIOCHEM 2B33**  
PROTEIN STRUCTURE AND ENZYME FUNCTION  
Fundamental concepts and experimental methods in studying structures of proteins, including membrane proteins. Nature of enzyme catalysis, introduction to enzyme kinetics and mechanism.  
Three lectures; one tutorial; second term  
Prerequisite: BIOCHEM 2B03 and either CHEM 2B3A or 20A3; and either CHEM 2PA3 or 2R03 and credit or registration in CHEM 2B3B or 20B3; or registration in Honours Chemistry (Biological Specialization)  
Prerequisite: (Beginning 2008-2009): BIOCHEM 2B03 and either CHEM 2B3A or 20A3; and either CHEM 2PA3 or 2R03 and credit or registration in CHEM 2B3B or 20B3; and registration in Honours Biochemistry, Honours Molecular Biology or Honours Physics (Biophysics Specialization)  
Antirequisite: BIOCHEM 3BT3, 3G03

**BIOCHEM 2EE3**  
METABOLISM AND PHYSIOLOGICAL CHEMISTRY  
A brief introduction to proteins, enzymes and gene expression followed by a more detailed treatment of energy and intermediary metabolism with emphasis on physiological chemistry.  
Three lectures; second term  
Prerequisite: One of CHEM 2B3A, 2E03, 20A3  
Antirequisite: BIOCHEM 2A03, 3D03

Not open to students registered in an Honours Biochemistry or Honours Molecular Biology program.

**BIOCHEM 2L06**  
INQUIRY IN BIOCHEMICAL TECHNIQUES  
An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops, with a focus on how to search the primary literature, prepare and deliver written and oral presentations.  
One lecture (one hour), one lab or workshop (four hours); two terms  
Prerequisite: Credit or registration in BIOCHEM 2B03 or 2BB3 and registration in Honours Arts & Science and Biochemistry, Honours Biochemistry, Honours Chemistry (Biological Specialization); or BIOCHEM 2EE3 and 3G03 and registration in Honours Chemistry (Biological Specialization); or registration in Honours Physics (Biophysics Specialization)  
Cross-list: MOL BIOL 2L06  
Antirequisite: BIOCHEM 3L03, HTH SCI 2N03  
Antirequisite: BIOCHEM 3L03, HTH SCI 2N03

**BIOCHEM 3A03**  
BIOCHEMICAL RESEARCH PRACTICE  
A twelve week research project undertaken in a biochemistry laboratory during the fall, winter or summer term which requires the submission of a formal report. Students are responsible to arrange a suitable project, location and agreement of the supervisor. For further information, please refer to http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm.  
Prerequisite: BIOCHEM 2B03, 2BB3; and registration in Honours Biochemistry or Honours Molecular Biology. Permission of the Department is required.

**BIOCHEM 3C03**  
CELLULAR BIOCHEMISTRY  
Biochemical basis of complex cellular processes such as compartmentalization, vesicular traffic, movement and programed cell death. Emphasis is placed on the principles of evaluation of current research literature.  
Three lectures; second term  
Prerequisite: BIOCHEM 3D03; and registration in Honours Biochemistry (Molecular Biology Specialization), Honours Arts & Science and Biochemistry or Honours Physics (Biophysics Specialization)

**BIOCHEM 3D03**  
METABOLISM AND REGULATION  
Three lectures; first term  
Prerequisite: BIOCHEM 2B03, 2BB3  
Antirequisite: BIOCHEM 2EE3

**BIOCHEM 3G03**  
PROTEINS AND NUCLEIC ACIDS  
Chemical and conformational properties of proteins and relationships to their function including regulation of enzyme activity and physico-chemical structure of DNA and RNA relevant to biological function.  
Three lectures; first term  
Prerequisite: CHEM 2A3 and 2BB3; or CHEM 2B3A and 2BB3; or a grade of at least B+ in CHEM 2E03 or CHEM 2E03 and registration in a Chemical Engineering program or Honours Physics (Biophysics Specialization)  
Antirequisite: BIOCHEM 2B03, 2BB3, 3BT3

**BIOCHEM 3H03**  
CLINICAL BIOCHEMISTRY  
An outline of clinical chemistry; its relation to disease and relevance to health care.  
Three lectures; second term  
Prerequisite: BIOCHEM 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3N03**  
NUTRITION AND METABOLISM  
Study of nutritional biochemistry and the regulation of metabolism; the role of specific nutrients in functional processes of the body in health and disease.  
Three lectures; second term  
Prerequisite: BIOCHEM 3D03; or BIOCHEM 2EE3 and 3G03; or a grade of at least C+ in BIOCHEM 2EE3; or HTH SCI 2E03

**BIOCHEM 3P03**  
ADVANCED BIOCHEMISTRY LABORATORY  
A preparation for independent experimental work in molecular biology and biochemistry. Multiple techniques are used to answer complex biochemical questions in a research project.  
One lab (three hours), one tutorial (three hours); first term  
Prerequisite: BIOCHEM 2L06 or 3L03; and registration in Honours Arts & Science and Biochemistry or an Honours Biochemistry Specialization  
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 3X03**  
STRUCTURE AND FUNCTION OF MACROMOLECULES  
Elucidation of the structure of proteins and macromolecular assemblies and how structure determines protein function through relevant examples.  
Three lectures; first term  
Prerequisite: BIOCHEM 2BB3 or 3G03  
Antirequisite: BIOCHEM 4K03  
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 3Y03**  
INTRODUCTION TO COMPUTATIONAL BIOCHEMISTRY  
Introduction to biochemical databases, biological data mining and analysis tools, molecular modelling, and ligand docking. Use of internet resources of biological information, computers and software for solving structure- and information-related problems in a biomedical lab.  
Three lectures/tutorials in a computer lab; second term  
Prerequisite: Completion of any Biochemistry course  
Enrolment is limited.

**BIOCHEM 4B06**  
SENIOR PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY  
An extended research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. It provides a suitable experience for graduate school or industry. Assessment is based on laboratory work, a poster presentation and a final report.  
Two terms  
Prerequisite: BIOCHEM 3P03 and registration in an Honours Biochemistry Specialization; or registration in Honours Physics (Biophysics Specialization). Permission of the Department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a CA of at least 8.0. For further information, please refer to http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm.

Antirequisite: BIOCHEM 4886, 4C03, 4F03, 4L03, 4P03  
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**BIOCHEM 4K03**  
PHYSICAL BIOCHEMISTRY AND HARASSMENT  
Three lectures; first term  
Prerequisite: BIOCHEM 3D03, 3K03  
Antirequisite: BIOCHEM 2EE3
BIOCHEM 4C03 INQUIRY IN BIOCHEMISTRY
Broader aspects of biochemistry such as those relating to food, drugs, health and environment discussed in small groups. Group and individual projects, seminars and lectures as appropriate to the subject matter.
Three hours; second term
Prerequisite: Registration in Level IV Honours Biochemistry
Antirequisite: BIOCHEM 4B06, 4F09, 4P03

BIOCHEM 4E03 RECOMBINANT DNA TECHNOLOGY AND GENE EXPRESSION
Recombinant DNA techniques; theory and applications to the study of gene function and evolution and to disease diagnostics and gene therapy. Current concepts of gene regulation at different levels.
Three lectures; first term
Prerequisite: BIOCHEM 2B03 or 3BT3; or BIOLOGY 3H03 and BIOCHEM 3G03; or a grade of at least B+ in BIOCHEM 3G03; or HTH SCI 2E03

BIOCHEM 4EE3 ADVANCED TOPICS IN GENE EXPRESSION
A critical study of the literature from recent primary manuscripts on gene regulation and inter-related regulatory pathways. Emphasis is on the molecular and cellular biology of multiple pathways that interact to affect phenomena in biology and disease.
Three lectures; second term
Prerequisite: BIOCHEM 4E03

BIOCHEM 4F09 SENIOR THESIS IN BIOCHEMISTRY AND MOLECULAR BIOLOGY
A thesis based on a major research project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. The results will also be presented to the department in a seminar or as part of a poster session.
Two terms
Prerequisite: BIOCHEM 3P03 and registration in an Honours Biochemistry Specialization. Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 9.5. For further information, please refer to http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm.

BIOCHEM 4G03 BIOCHEMICAL PHARMACOLOGY
Introduction to the basic concepts of pharmacology. Mechanisms of action of antibacterial, antiviral, antifungal and anticancer drugs, toxins and how cellular resistance to such agents develop. Applications of drug-resistant mutants for genetic, biochemical pharmacological and cell biological studies.
Three lectures; first term
Prerequisite: BIOCHEM 2BT3 or 3D03; or BIOCHEM 2EE3 and 3G03; or HTH SCI 2E03

BIOCHEM 4S03 INTRODUCTION TO MOLECULAR BIOPHYSICS
A presentation of recent contributions made to the fields of molecular and cell biology by the use of physical approaches. Topics include physical properties of biomolecules, protein folding, molecular motors, cell motility and cell adhesion. Emphasis on the critical evaluation of current research literature.
Three lectures; first term
Prerequisite: One of CHEM 2R03, MATLS 2B03 or PHYSICS 2H04. PHYSICS 3S03 is recommended.
Cross-list: PHYSICS 4S03

This course is administered by the Department of Physics and Astronomy.

BIOCHEM 4Y03 GENOMES AND EVOLUTION
Three lectures; second term
Prerequisite: BIOCHEM 2BT3 or 3G03
Antirequisite: BIOLOGY 4D03

BIOCHEM 4Z03 RESEARCH PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY
A project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. Assessment is based on laboratory work and a final report.
May be taken first or second term
Prerequisite: BIOCHEM 3P03, and registration in an Honours Biochemistry Specialization or Honours Physics (Biophysics Specialization). Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 7.0. For further information, please refer to http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm.
Antirequisite: BIOCHEM 4B06, 4C03, 4F09, MOL BIOL 4R08
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4Z04 BIOCHEMICAL PHARMACOLOGY
Introduction to the basic concepts of pharmacology. Mechanisms of action of antibacterial, antiviral, antifungal and anticancer drugs, toxins and how cellular resistance to such agents develop. Applications of drug-resistant mutants for genetic, biochemical pharmacological and cell biological studies.
Three lectures; first term
Prerequisite: BIOCHEM 2BT3 or 3D03; or BIOCHEM 2EE3 and 3G03; or HTH SCI 2E03

BIOCHEM 5F03 RESEARCH PROJECT IN BIOCHEMISTRY AND MOLECULAR BIOLOGY
A project supervised by a member or associate member of the Department of Biochemistry and Biomedical Sciences. Assessment is based on laboratory work and a final report.
May be taken first or second term
Prerequisite: BIOCHEM 3P03, and registration in an Honours Biochemistry Specialization or Honours Physics (Biophysics Specialization). Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 7.0. For further information, please refer to http://www.fhs.mcmaster.ca/biochem/Undergraduate.htm.
Antirequisite: BIOCHEM 4B06, 4C03, 4F09, MOL BIOL 4R08
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOCHEM 4M03 IMMUNOLOGY
This advanced course applies small-group-based learning to immuno- logical problems. Topics concern development of immunoassays, resistance to infection and immunity in health and disease.
One session (two hours), one tutorial; one term
Prerequisite: Either BIOLOGY 2B03 or HTH SCI 2K03, and either BIOLOGY 2C03 or HTH SCI 3H03, and either BIOLOGY 3X03 or HTH SCI 3I03, and HTH SCI 4103; or permission of the instructor.
Cross-list: HTH SCI 4J03, MOL BIOL 4J03
This course is administered by the Bachelor of Health Sciences (Honours) Program.

BIOCHEM 4L33 BIOTECHNOLOGY AND GENETIC ENGINEERING LABORATORY
Recombinant DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.
Two labs (four hours); second term
Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or BIOCHEM 3G03 and registration in a Chemical Engineering program.
Cross-list: CHEM ENG 4L33
Antirequisite: BIOCHEM 4F09, 4G03, 4L03

BIOCHEM 4N03 MOLECULAR MEMBRANE BIOLOGY
Properties and structures of membranes, molecular components of biological membranes and their interactions, strategies for signal transduction cascades, hormones, receptors.
Three lectures; second term
Prerequisite: BIOCHEM 3D03 or 3G03; or BIOCHEM 2B03 and registration in Honours Chemistry (Biological Specialization); or HTH SCI 2E03
Antirequisite: BIOCHEM 4I03, 4K03, 4M03

For more information, please refer to http://www.science.mcmaster.ca/biochem/

Life Sciences Building, Room 118
Ext. 23049

Faculty as of January 15, 2007
Chair
Turlough M. Finan
Associate Chairs
Patricia Chow-Fraser/Undergraduate Studies
Elizabeth A. Weretilnyk/Graduate Studies
Distinguished University Professor
Christopher M. Wood/B.Sc., M.Sc. (British Columbia), Ph.D. (East Anglia), F.R.S.C./Senior Canada Research Chair

Professors
Patricia Chow-Fraser/B.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)
Turlough M. Finan/B.Sc., M.Sc. (Galway), Ph.D. (Guelph)
G. Brian Golding/ B.Sc. (Dalhousie), Ph.D. (Alberta)/Senior Canada Research Chair
Delsworth G. Harnish/Pathology and Molecular Medicine B.Sc., M.Sc. (Queen's), Ph.D. (McMaster)

Bachelor of Science in Biomedical Sciences, Pathology and Molecular Medicine B.Sc. (Brooklyn College), Ph.D. (Connecticut) J. Roger Jacobs/B.Sc. (Calgary), M.Sc., Ph.D. (Toronto) -
Jurek Kolasa/M.Sc., Ph.D. (Poznan)
Colin A. Nurse/B.E.Sc. (Western Ontario), Ph.D. (Harvard)
Michael J. O'Donnell/B.Sc., Ph.D. (Toronto)
James S. Quinn/B.Sc. (Queen's), M.Sc. (Brock), Ph.D. (Oklahoma)
Andrew J. Rainbow/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)/Undergraduate Advisor
C. David Rollo/B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Herbert E. Schellhorn/B.Sc., M.Sc. (Guelph), Ph.D. (North Carolina)
Rama S. Singh/B.Sc. (Agra), M.Sc. (Kanpur), Ph.D. (California-Davis)
Elizabeth A. Weretinyi/B.Sc., Ph.D. (Alberta)

Associate Professors
Christian Baron/Dipl. Microbiol, Ph.D. (Munich)
André Bédard/B.Sc. (Montreal), Ph.D. (McGill).
Robin K. Cameron/B.Sc. (Waterloo), Ph.D. (McGill)
Ana Campos/B.A., M.A. (Rio de Janeiro), Ph.D. (Brandeis)
Juliet M. Daniel/B.Sc. (Queen's), Ph.D. (British Columbia)
Susan A. Dudley/B.Sc., M.Sc. (McGill), Ph.D. (Chicago)/Undergraduate Advisor
Suleiman A. Igduara/B.Sc. (Victoria), M.Sc. (Western Ontario), Ph.D. (McGill)
Jianping Xu/B.Sc. (Jiangxi), M.Sc. (Nanjing and Toronto), Ph.D. (Toronto)

Adjunct Associate Professors
David A. Galbraith/(Royal Botanical Gardens), B.Sc., M.Sc. (Guelph), Ph.D. (Queen's)
James S. Pringle/(Royal Botanical Gardens), A.B. (Dartmouth), M.S. (New Hampshire), Ph.D. (Tennessee)

Assistant Professors
Kimberley DeJong/B.Sc. (Toronto), Ph.D. (Johns Hopkins)
Marie Elliott/B.Sc., Ph.D. (Alberta)/Canada Research Chair
Ben Evans/B.S. (Tufts), M.S., M.Phil., Ph.D. (Columbia)
Bhagwati Guptas/B.Sc. (Banaras Hindu), M.Sc. (Jawaharlal Nehru), Ph.D. (TATA Institute)/Canada Research Chair
Loyave Kajiura/B.Sc., M.Sc., Ph.D. (McMaster)
Grant B. McClelland/B.Sc. (Ottawa), Ph.D. (British Columbia)
Jonathon Stone/B.Sc., M.Sc., Ph.D. (Toronto)/SHARCNet Chair in Computational Biology
Joanna Wilson/B.Sc., (McMaster), M.Sc. (Victoria), Ph.D. (MIT/Woods Hole Oceanographic institution)
Xu-Dong Zhu/B.Sc. (Nanjing), M.Sc. (Regina), Ph.D. (Toronto)

Instructional Assistants
Lori Goff/B.Sc., M.Sc. (Guelph)
Marvin Gunderman/B.Sc., M.Sc. (McMaster)
Thelma Leech/B.Sc., M.Sc. (Guelph), M.Sc.(T.) (McMaster)
Beryl Piccinini/B.Sc. (Mount Allison), M.Sc. (McMaster)
Raymond Proctow/B.Sc. (McMaster), B.Ed. (Toronto)

Note:
No more than 12 units of Level I, III Biology (six units per year) may be taken in
total by students enrolled in a three year Baccalaureate degree program. De-
tailed course descriptions are available on the program web site at http://
www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings

Courses
If no prerequisite is listed, the course is open.

BIOLOGY 1A03 CELLULAR AND MOLECULAR BIOLOGY
Structure, molecular composition and function in sub-cellular and cellular systems.
Three lectures, one lab (three hours); one term
Prerequisite: Grade 12 Biology U in registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, or any program above Level I; or a grade of at least 80% in Grade 12 Biology U; and credit or registration in SCIENCE 1A00
Prerequisite: Beginning 2008-2009: BIOLOGY 1M03 and registration in any Level I program in the Faculty of Science, Arts & Science I, Honours Kinesiology I, Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering; or registration in Medical Radiation Sciences I; and credit or registration in SCIENCE 1A00
Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended as both courses are prerequisites for many Level II, III and IV Biology courses. Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.

BIOLOGY 1A03  BIODIVERSITY, EVOLUTION AND ECOLOGY
Fundamental evolutionary and ecological concepts with particular reference
to the diversity of life.
Three lectures, one lab (three hours); one term
Prerequisite: Grade 12 Biology U and registration in one of Science I, Arts & Science I, Kinesiology I, Mathematics and Statistics I, Medical Radiation Sciences I, Chemical Engineering and Bioengineering, Electrical and Biomedical Engineering, any program above Level I; or a grade of at least 80% in Grade 12 Biology U; and credit or registration in SCIENCE 1A00
Registration in or completion of CHEM 1A03, 1AA3 is strongly recommended as both courses are prerequisites for many Level II, III and IV Biology courses. Students in non-Science programs should consider registering in BIOLOGY 1K03 and SCIENCE 2K03 which do not have laboratories.

BIOLOGY 1K03  BIOLOGY FOR THE HUMANITIES
Principles spanning the realms of biology with a particular emphasis
as science and the life of the individual.
Three lectures, one tutorial; one term
Antirequisite: SCIENCE 2H03
Not open to students registered in a program in the Faculty of Science.
BIOLOGY 1K03 is not a prerequisite for further courses in Biology.
Other Biology courses of interest to students in Humanities and Social
Sciences include SCIENCE 2K03.

BIOLOGY 1M03  BIODIVERSITY, EVOLUTION AND ECOLOGY
Fundamental evolutionary and ecological concepts with particular reference
to the diversity of life.
Three lectures; three hour seminar, every other week; one term
Prerequisite: Grade 12 Biology U or BIOLOGY 1P03
Antirequisite: BIOLOGY 1A03

BIOLOGY 1P03  INTRODUCTORY BIOLOGY
Introduction to basic biological principles for students without Grade 12 Biology U.
Three lectures, one tutorial (two hours); one term
Not open to students with 60% or higher in Grade 12 Biology U.

BIOLOGY 1X03  INTRODUCTION TO COMPUTATIONAL BIOLOGY
An introduction to how computers are used to study living systems. The
use of computational techniques such as modelling, simulation and data
analysis to conduct biological research.
Three lectures; one tutorial; one term
Prerequisite: BIOLOGY 1A03 or credit or registration in BIOLOGY 1M03 or HTH SCI 1E06; and MATH 1A03; and registration in a program in the Faculty of Science or permission of the instructor

BIOLOGY 2A03  INTEGRATIVE PHYSIOLOGY OF ANIMALS
Fundamental principles of animal physiology, including: cellular energetics,
diffusion, osmosis, membrane transport, excitability and contractility, gas exchange, fluid dynamics, electrolyte balance.
Three lectures; one lab (three hours); one term
Prerequisite: BIOLOGY 1A03, 1AA3
Antirequisite: BIOLOGY 4D03, ENGINEER 4X03, ENG PHYS 3X03, HTH SCI 1H03, 1H13, 2F03, 2FF3, KINESIOI 1A06, 1Y03, 1Y13, MED PHYS 4X03
Not open to students with credit or registration in BIOLOGY 3P03, 3U03, 3U13

BIOLOGY 2B03  CELL BIOLOGY
Basic treatment of cell structure and function, including transport and
chemical signals; adaptation of structure and function in specialized cells.
Three lectures; one lab (three hours), one tutorial; one term
Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3
Antirequisite: HTH SCI 2K03, MOL BIOL 2B03
Not open to students registered in the Honours Molecular Biology program.
BIOLOGY 2C03 GENETICS
Structure, function and transmission of genes; chromosomal basis of inheritance; mono- and dihybrid crosses; sequential steps in gene function; linkage maps; sex chromosome inheritance.
Three lectures and one tutorial (three hours); one term
Prerequisite: BIOLOGY 1A03, 1A3, AND CHEM 1A03; and registration in an Honours program in the Faculty of Science, or a program in Arts & Science, Health Sciences or Kinesiology. Students are required to have a C.A. of at least 6.0; students who require this course for completion of their program are guaranteed admission. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 2D03 PLANT BIODIVERSITY
An introduction to plants emphasizing their diversity in structure, development, ecology, mechanisms of reproduction, adaptations for survival in different environments, and human uses.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1AA3; and BIOLOGY 1A03 or ENVIR SCI 1B03

BIOLOGY 2EE3 INTRODUCTION TO MICROBIOLOGY AND BIOTECHNOLOGY
Introduction to microbial cell biology, ecology, pathogenicity, physiology, taxonomy, antimicrobial agent action and to the application of microorganisms in biotechnology.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 1A03, 1A3, CHEM 1A03 and credit or registration in one of CHEM 2B03, 2E03 or 20A3; or registration in Level III Chemical Engineering and Bioengineering
Antirequisite: BIOLOGY 3E03

BIOLOGY 2F03 FUNDAMENTAL AND APPLIED ECOLOGY
An introduction to fundamental ecological principles and illustration of how these are applied to current environmental problems at the level of organisms, populations and ecosystems.
Two lectures, one optional tutorial, one mandatory lab (three hours); one term
Prerequisite: BIOLOGY 1AA3

BIOLOGY 2G03 INQUIRY I - CURRENT ISSUES IN BIODIVERSITY
An interactive course exposing students to current issues in the understanding, preservation and management of biodiversity and ecological integrity.
One lecture (three hours), one tutorial (two hours); one term
Prerequisite: BIOLOGY 2D03, 2F03, and registration in Level II or III of any program in the Faculty of Science, Health Sciences or the Arts & Science Program. Please note, BIOLOGY 3G03 is open only to students registered in the Biodiversity Specialization of the Honours Biology Program.
Antirequisite: BIOLOGY 2B03

BIOLOGY 2Y3Y PRACTICAL DATABASES AND DATA MINING IN BIOLOGY
An introduction to the use of databases in the life sciences. How to find, add data to and extract knowledge from computer databases.
Three lectures, one tutorial; one term
Prerequisite: COMP SCI 1MD3 or PHYSICS 2G03

BIOLOGY 2Z03 SIMULATIONS AND DYNAMICAL SYSTEMS IN BIOLOGY
A practical introduction to programming simulations of biological systems in order to answer questions in the life sciences.
Three lectures, one tutorial; one term
Prerequisite: COMP SCI 1MD3 or PHYSICS 2G03

BIOLOGY 3A03 FUNDAMENTAL CONCEPTS OF PHARMACOLOGY
Drug interactions with living organisms; absorption and elimination of drugs, variations in drug action, drug toxicity, receptor structure and function, and signal transduction pathways.
Three lectures, one tutorial (three hours); one term
Prerequisite: One of BIOLOGY 2A03, HTH SCI 2FF3, PSYCH 2F03, and one of BIOCHEM 2A06, 2BB3, 2EE3 or registration in BIOCHEM 3G03. BIOLOGY 3P03 is strongly recommended.
Not open to students with credit in BIOCHEM 4Q03 or registration in Honours Biology and Pharmacology.

BIOLOGY 3B03 PLANT PHYSIOLOGY
Principles of physiology and plant cell metabolism. Topics include: photosynthesis, photoreception, mineral nutrition, water relations and transpiration.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03, 2D03

BIOLOGY 3B03 ULTRASTRUCTURE, DEVELOPMENT AND FUNCTION OF PLANT CELLS
Cells and tissues will be studied. Students will take photomicrographs and electron micrographs.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03, 2D03
Offered on an irregular rotation basis.

BIOLOGY 3C03 MICROGENOMES AND SYSTEMS BIOLOGY
Advanced topics of microbial physiology/biochemistry and introduction to systems approaches based on microbial genomics, transcriptomics, proteomics and metabolomics projects.
Two lectures, one lab or tutorial (three hours); one term
Prerequisite: BIOCHEM 2B03 or 2E03; and BIOLOGY 2B03, 2C03; and BIOLOGY 2EE3 or 3E03; and CHEM 20A3, 20B3. Completion of BIOLOGY 3G03 is strongly recommended.
Prerequisite (Beginning 2008-2009): BIOCHEM 2B03 or 2EE3; and BIOLOGY 2B03, 2C03; and BIOLOGY 2EE3 or 3E03; and CHEM 20A3, 20B3.

BIOLOGY 3F03 VERTEBRATE ANATOMY
An introduction to the development of structure and function in vertebrates.
Three lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended. Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
Offered in alternate years: Offered in 2007-2008.

BIOLOGY 3F03 EVOLUTION
Introduction to the major theoretical concepts and empirical findings in micro- and macroevolution.
Three lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03

BIOLOGY 3G03 INQUIRY II - CURRENT RESEARCH IN BIODIVERSITY
An interactive course highlighting current research programs in the general area of biodiversity within the Biology Department. Preparation for BIOLOGY 4C09 and 4F06 project on a biodiversity topic. A mandatory weekend field trip will be held in September. Students enrolling in this course must pay both the nominal incidental fee as prescribed by the Instructor and regular tuition fees.
One lecture (three hours), one tutorial (two hours); one term
Prerequisite: BIOLOGY 2B03. Restricted to students registered in Level III Honours Biology (Biodiversity Specialization).

BIOLOGY 3H03 MOLECULAR BIOLOGY OF THE NUCLEUS
Structure of the nucleus and of chromatin; organization of DNA sequences; DNA replication, transcription; gene expression; some relevant techniques.
Two lectures, one tutorial (two hours); one term
Prerequisite: BIOLOGY 2B03
Antirequisite: BIOCHEM 3B03

BIOLOGY 3H03 ORGANIZATION OF THE CYTOPLASM
A detailed examination of the molecular organization and function of cytoplasmic structures in metazoans, with particular focus on the differentiation and specialization of the cell surface and the cytoskeleton.
Three lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03

BIOLOGY 3I03 EUKARYOTIC GENETICS
Molecular genetics of eukaryotes, with focus on molecular mechanisms of eukaryotic DNA replication, DNA repair and recombination, cell cycle and cancer, telomerases and telomerase.
Three lectures; one term
Prerequisite: BIOLOGY 2B03, 2C03

BIOLOGY 3K03 ANIMAL HISTOLOGY
The structure, function, and organization of cells, tissues, organs and organ systems.
Three lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2B03. BIOLOGY 2A03 is strongly recommended.
Antirequisite: HTH SCI 2F03, 2FF3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
BIOLOGY 3M03 FUNDAMENTAL CONCEPTS IN DEVELOPMENT
Recent advances using genetic and molecular approaches will be discussed in the context of classical experiments. Various model systems (mice, fruitflies, worms) will be examined.
Two lectures, one tutorial or lab (three hours); one term
Prerequisite: BIOLOGY 2B03, 2C03

BIOLOGY 3M33 INVERTEBRATE FORM AND FUNCTION
Analysis of sensory reception, nervous control systems, feeding, skeletal support, locomotion, excretion, respiration, and reproduction in selected invertebrates.
Two lectures, one lab/tutorial (three hours); one term
Prerequisites: BIOLOGY 2A03; or BIOLOGY 1A03 and either KINESIOL 1A06 (or 1A03 and 1AA3) or both KINESIOL 1Y03 and 1YY3

BIOLOGY 3Q03 MICROBIAL GENETICS
The genetics of bacteriophages, bacteria and fungi. Special emphasis will be placed on relationships between microbial genetics and general problems in genetics and gene regulation.
Three lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03. BIOLOGY 2EE3 or 3E03 is strongly recommended. Prerequisite (Beginning 2009-2009): BIOLOGY 2C03, and credit or registration in BIOLOGY 2EE3 or 3E03

BIOLOGY 3P03 CELL PHYSIOLOGY
Analysis of cell function with an emphasis on electrical properties, ion transport proteins, signalling via second messengers, mechanisms of cell homeostasis, and developmental support.
Two lectures, one tutorial; one term
Prerequisites: BIOLOGY 2A03 or PSYCH 2F03; or both BIOLOGY 1A03 and either KINESIOL 1A06 (or 1A03 and 1AA3) or both KINESIOL 1Y03 and 1YY3; and credit or registration in one of BIOCHEM 2A06, 2BB3 or 3O03

BIOLOGY 3Q03 PEER MENTORING IN BIOLOGY
(CELLULAR AND MOLECULAR BIOLOGY)
This course gives students theoretical and practical experience with teaching methods in cellular and molecular biology and focuses upon effective presentation and scientific writing skills.
One lecture (two hours), one practicum; one term
Prerequisite: BIOLOGY 1A03; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor
Antirequisite: BIOLOGY 3Q03, HTH SCI 4X03
Enrolment is limited. Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3Q03 PEER MENTORING IN BIOLOGY
(BIODIVERSITY, EVOLUTION AND ECOLOGY)
This course gives students theoretical and practical experience with teaching methods in biodiversity, evolution and ecology and focuses on effective presentation and scientific writing skills.
One lecture (two hours), one practicum; one term
Prerequisite: BIOLOGY 1AA3; and registration in Level III or above of a program in Arts & Science or the Faculty of Science; and permission of the instructor
Antirequisite: BIOLOGY 3Q03, HTH SCI 4X03
Enrolment is limited. Applications must be submitted to the Undergraduate Assistant, Life Sciences Building, Room 118 prior to registration. Placements announced after completion of a successful interview. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3R03 FIELD BIOLOGY I
Field work plus written assignments chosen from an assortment of modules offered by faculty from McMaster and other Ontario Universities' Biology Departments. This module must differ from any completed for credit in BIOLOGY 4J03, 4J33. Available modules are posted in December each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: BIOLOGY 1A03, 1AA3 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 3R03, or contact the Course Administrator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3S03 AN INTRODUCTION TO BIOINFORMATICS
This course introduces the techniques and methods of basic computer analysis of sequence data, including alignment, databases, and phylogenetic reconstruction.
Three lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03
Antirequisite: BIOLOGY 4R03

BIOLOGY 3S33 POPULATION ECOLOGY
Population structure and dynamics. Natural selection and regulation of organisms by environmental and biological factors. An evolutionary view of predation, competition, life history schedules.
Three lectures; one term
Prerequisite: BIOLOGY 2F03

BIOLOGY 3T33 COMMUNITY ECOLOGY
Community structure; successions; patterns of diversity and their relevance to conservation; elements of biological control; energy flow, nutrient cycling and climatic influences.
Two lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2F03. BIOLOGY 2C03 and STATS 1C03 are recommended.

BIOLOGY 3U03 ANIMAL PHYSIOLOGY - HOMEOSTASIS
Respiration, circulation, acid-base balance and renal function.
Two lectures, one lab/tutorial (three hours); one term
Prerequisite: BIOLOGY 2A03; or both BIOLOGY 1A03 and either KINESIOL 1A06 (or 1A03 and 1AA3) or both KINESIOL 1Y03 and 1YY3; and registration in Level III or above of any Honours program. BIOCHEM 2EE3 and 3G03 are recommended.
Antirequisite: MED PHYS 4X3
Not open to students registered in the Faculty of Health Sciences or with credit or registration in HTH SCI 2L03 or 2LL3.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3U33 ANIMAL PHYSIOLOGY - REGULATORY SYSTEMS
Regulation associated with major features and functions of organisms (e.g., feeding, reproduction, thermoregulation, growth, stress, sleep, aging). Emphasis on endocrinology, evolution, vertebrates and ecology.
Material will include selected readings.
Two lectures; one term
Prerequisite: BIOLOGY 2A03; or both BIOLOGY 1A03 and either KINESIOL 1A06 (or 1A03 and 1AA3) or both KINESIOL 1Y03 and 1YY3. BIOLOGY 2B03 and 2C03 are recommended.
Antirequisite: BIOLOGY 4D03, MED PHYS 4X3
Not open to students registered in the Faculty of Health Sciences or with credit or registration in HTH SCI 2L03 or 2LL3.

BIOLOGY 3V03 TECHNIQUES IN MOLECULAR GENETICS
A laboratory course involving basic experiments in Molecular Genetics. One lecture, two labs (three hours each); one term
Prerequisite: Credit or registration in BIOLOGY 3O03 and registration in Level III or above of any Honours Biology program
Antirequisite: BIOCHEM 3P03, MOL BIOL 3V03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 3W33 MICROBIOLOGY INQUIRY
An interactive course highlighting current research programs in the general field of microbiology as well as specific interests in microbiology within the Department of Biology.
One lecture (three hours), one tutorial; one term
Prerequisite: Registration in Level III Honours Biology (Microbiology and Biotechnology Specialization)

BIOLOGY 3Y03 PLANT RESPONSES TO THE ENVIRONMENT
How plants respond at the genetic, molecular, biochemical and phenotypic levels to environmental stress. Manipulation of these responses to improve crops will be explored.
Three lectures; one term
Prerequisite: BIOLOGY 2B03, 2C03, 2D03

BIOLOGY 3Y33 INTRODUCTION TO GENOMICS
An introduction to the field of genomics. The technologies used to do high throughput biological experiments, the results of large genomic studies and how these studies affect society.
Three lectures; one term
Prerequisite: BIOLOGY 2C03
First offered in 2009-2010.
BIOLOGY 3Z23  TOPICS IN PHYSIOLOGY
An advanced seminar focusing on current topics in physiology.
One seminar (two hours); two terms
Prerequisite: Registration in Honours Biology (Physiology specialization)

BIOLOGY 4A03  ADVANCED TOPICS IN ECOLOGY
Examination of current topics in ecology including ecosystem and landscape ecology, evolutionary ecology and behavioural ecology.
Two lectures, one tutorial (three hours); one term
Prerequisite: One of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

BIOLOGY 4A04  CONSERVATION BIOLOGY
Examination of how biological principles, mainly from population biology and genetics, can be applied to conserving diversity in the natural world.
Three lectures, one lab (three hours); one term
Prerequisite: BIOLOGY 2C03; and one of BIOLOGY 3FF3, 3J03, 3SS3 or 3TT3; and registration in Level III or above of any Honours program

BIOLOGY 4B03  PLANT METABOLISM AND MOLECULAR BIOLOGY
Analysis of plant cell metabolism and the regulation of metabolism at the biochemical and molecular genetic level.
Three lectures; one term
Prerequisite: One of BIOCHEM 2A06, 2BB3 or 3G03; and registration in Level III or above of any Honours program. BIOLOGY 3B03 and 3H03 are recommended.
Offered in alternate years.
Offered in 2007-2008.

BIOLOGY 4C09  SENIOR THESIS
A thesis based upon a research project in an area of biology carried out under the direction of a member of the Biology department.
Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Sciences Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4C09, including agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 4C09, or contact the Course Administrator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4D03  MOLECULAR EVOLUTION
The study of how molecules change over time within and between species. The experimental data, techniques and theories will be examined.
Two lectures; one tutorial; one term
Prerequisite: ANTHROP 2E03 or BIOLOGY 3FF3; and registration in Level III or above of any Honours program.
Antirequisite: BIOCHEM 4Y03
Offered in alternate years.

BIOLOGY 4E03  POPULATION GENETICS
Conceptual foundations of evolutionary theory and principles of population genetics.
Three lectures; or two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2C03, 3FF3; and registration in Level III or above of any Honours program.
Antirequisite: BIOLOGY 3J03

BIOLOGY 4E05  PLANT GENETICS
A study of the human body by dissection, self-teaching modules and videotapes.
Two labs (two and one half hours); two terms
Prerequisite: A grade of at least B+ in BIOLOGY 3F03 or 3K03 (or co-registration in BIOLOGY 3K03); and registration in Level III or above of any Honours program; and permission of the instructor. Application for permission must be received by the Course Administrator, Life Sciences Building, Room 118, by March 31st of the academic year prior to registration. These are minimum requirements, and final selection will be based on academic merit.
Antirequisite: MED PHYS 4XX3
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar. Offered in alternate years. Not offered in 2007-2008.

BIOLOGY 4G09  SENIOR GENETICS CO-OP THESIS
A thesis based upon a research project in an area of genetics carried out under the direction of a member of the Biology department.
Prerequisite: Registration in Level IV of the Honours Biology Genetics Specialization Co-op program and permission of the Course Administrator, Life Sciences Building, Room 118. Arrangements to take BIOLOGY 4G09, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 4G09, or contact the Course Administrator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4L03  INQUIRY IN BIOLOGY II
This course provides an opportunity to explore a specialized area of biology in a small group setting.
Lectures, seminars and discussions (three hours); one term
Prerequisite: Registration in Level IV Honours Biology. BIOLOGY 4L03 may not be repeated. For information regarding module offerings, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 4L03, or contact the Course Administrator, Life Sciences Building, Room 118. Antirequisite: BIOLOGY 4C09, 4F06, 4FF3, 4G09, HTH SCI 3H03, 4A09, 4B06, MOL BIOL 4R09, PHARMAC 4F09
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

BIOLOGY 4J03  FIELD BIOLOGY II
A second field module chosen from those offered by faculty from McMaster and other Ontario Universities’ Biology Departments. This module must differ from any completed for credit in BIOLOGY 3R03, 4JJ3. Available modules are posted in December of each year. Content and schedules vary annually. Students enrolling in this course must pay both the incidental fees, as prescribed by the Department, and the regular tuition fees.
Prerequisite: BIOLOGY 1A03, 1A33 or one of ENVIR SC 1A03, 1B03 or 1G03; and permission of the Course Administrator, Life Sciences Building, Room 118. Some modules have additional prerequisites. For information on Field Biology, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 4J03, or contact the Course Administrator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

Prerequisite: Registration in Level IV of any Honours Biology program and permission of the Course Administrator, Life Sciences Building, Room 118. Students are expected to have a C.A. of at least 8.5. Arrangements to take BIOLOGY 4F06, including the agreement of the supervisory committee, should be made according to Departmental Guidelines before the end of March in Level III. For information on Departmental Guidelines, please refer to the Biology web site at http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings and click on BIOLOGY 4F06, or contact the Course Administrator.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
An intensive two week laboratory/lecture course. Topics covered will include methods, techniques, and permission of the Course Administrator. Enrolment is limited. See the heading Limited Enrollment Courses in the Faculty of Science section of the Calendar.

**BIOTECHNOLOGY**

*(SEE TECHNOLOGY, BIOTECHNOLOGY)*

**BUSINESS**

*(SEE COMMERCE)*

**CANADIAN STUDIES**

*(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)*

**CAYUGA**

*(SEE INDIGENOUS STUDIES, CAYUGA)*

**CHEMICAL ENGINEERING**

WEB ADDRESS:  http://www.chemeng.mcmaster.ca  
John Hodgins Engineering Building, Room 374

Faculty as of January 15, 2007

Chair  
A. N. Hrymak

Distinguished University Professors  

Professors  
James M. Dickinson/B. A.Sc., M.A.Sc. (Waterloo), Ph.D. (Virginia Tech.)  
Andrew N. Hrymak/B.Eng. (McMaster), Ph.D. (Cambridge, Meilton), P.Eng., F.C.I.C.  
Raffi O. Louty/B.Sc., M.Sc. (Al Ain Shams), Ph.D. (Western Ontario), M.B.A. (Toronto), F.C.I.C.  
Thomas E. Marlin/B.Sc. (SUNY), M.S. (Dayton), Ph.D. (Massachusetts)  
Robert H. Petlon/B.Sc., M.Sc. (Guelph), Ph.D. (Bristol)/Senior Canada Research Chair  
Paul A. Taylor/B.Sc., Ph.D. (Wales), P.Eng.  
Shing Zhu/B.Eng. (Zhejiang), Ph.D. (McMaster), P.Eng./Canada Research Chair

Adjunct Professor  
Joseph D. Wright/B.Sc. (Newfoundland), Ph.D. (Cambridge), P.Eng.

Associate Professors  
Christopher L. E. Swartz/B.Sc.Eng. (Cape Town), Ph.D. (Wisconsin)  
Heather Sheardown/B.Eng. (McMaster), Ph.D. (Toronto), P.Eng.

Adjunct Associate Professors  
Lyndon W.J. Jones/B.Sc. (Wales), Ph.D. (Aston)  
Theodora Kourtz/Dipl. Eng. (Chemical) (Aristotle), Ph.D. (McMaster)
CHEMICAL ENGINEERING

Assistant Professors
Carlos Filipe/B.S. (Universidade Catolica Portuguesa), Ph.D. (Clemson)
Raja Ghosh/B.S., M.S. (Jadavpur), D.Phil. (Oxford)/Canada Research Chair
Kim Jones/B.A.Sc., M.Sc. (Waterloo), Ph.D. (Toronto)
Prashant Mhaskar/B.Tech. (IIT), M.S. (Louisiana State), Ph.D. (UCLA)
Michael Thompson/B.Sc., B.Eng., M.Eng. (McMaster), Ph.D. (Waterloo)

Adjunct Assistant Professors
Leopold K. (Kris) Kostanski/M.Eng., Ph.D. (Technical University of Szczecin)
Shannon L. Quinn/B.Sc., B.A.Sc. (Ottawa), Ph.D. (Queen's)

Introduction to bioseparations engineering, cell disintegration, and membrane separation processes. Focus on the development of mathematical models for the design and operation of bioprocesses.

Three lectures, one tutorial (two hours); second term

Prerequisite: Registration in Level IV of a Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

CHEM ENG 3BIN BIOSEPARATIONS ENGINEERING
Introduction to bioprocessing technologies, including fermentation, extraction, and membrane processes. Focus on the use of mathematical models for the design and operation of bioprocesses.

Three lectures, second term

Prerequisite: Registration in Level IV of a Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

Department Note:
All Chemical Engineering courses are open to students registered in a Chemical Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments and other faculties.

COURSES

CHEM ENG 2A04 HEAT TRANSFER
Steady and unsteady conduction and convection, condensation and boiling. Understanding fundamentals behind heat exchangers, and finned arrangements. Numerical simulations of complex heat transfer systems. Three lectures; one tutorial (two hours); second term
Prerequisite: Registration in a Chemical Engineering or Materials Engineering program
Corequisite: One of CHEM ENG 2B03, 2F04, MATHS 2B03, 2D03

CHEM ENG 2B03 INTRODUCTION TO BIOPROCESS ENGINEERING
Unit operations approach; material and energy balances; survey of momentum, heat and mass transfer; basics of chemical process design.
Two lectures (one hour each), one tutorial (two hours); first term
Prerequisite: Registration in Level II Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); or Level II Civil Engineering (Water/Environmental Engineering System)
Not open to students registered in a Chemical Engineering program.

CHEM ENG 2A04 CHEMICAL ENGINEERING PRINCIPLES I
Steady-state mass balances in chemical processes and the first law of thermodynamics. The behaviour of gases and liquids, and their physical equilibria. Recycle in steady state operation.
Three lectures, one tutorial (three hours); first term
Prerequisite: Registration in Level II of any Chemical Engineering program

CHEM ENG 2F04 CHEMICAL ENGINEERING PRINCIPLES II
Combined mass and energy balances in the steady and unsteady state. The second law of thermodynamics and physical chemical equilibria. Introduction of process simulation packages.
Three lectures, one tutorial (three hours); second term
Prerequisite: Registration or credit in CHEM ENG 2F04

CHEM ENG 2G03 PROBLEM SOLVING AND TECHNICAL COMMUNICATION
Developing awareness, strategies, creativity, analysis and interpersonal skills in the context of solving homework problems and preparing technical communications. Interpretation, retrieval manipulation and communication of information.
Three lectures; first term
Prerequisite: CHEM ENG 2C02, 2G02

CHEM ENG 2B03 CELL BIOLOGY AND MICROBIOLOGY
Introduction to cell structure and function, including transport and chemical signals, adaptation of structure and function. Use of microorganisms in biotechnology. Biology of the prokaryotic cell.
Three lectures, one lab (three hours); second term
Prerequisite: Registration in Chemical Engineering and Bioengineering

CHEM ENG 3BK3 BIO-REACTION ENGINEERING
Three lectures; first term
Prerequisite: Registration in Level IV of any Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

CHEM ENG 3BM3 BIOSEPARATIONS ENGINEERING
Introduction to bioprocessing technologies, cell disintegration, precipitation based separation processes, extraction, adsorption, chromatography, centrifugal separations, filtration, membrane based separation processes, electrohydrodynamics.
Three lectures, second term
Prerequisite: Registration in Level IV of a Chemical Engineering program; or CHEM ENG 2B03; or permission of the Department

CHEM ENG 3D03 CHEMICAL ENGINEERING THERMODYNAMICS
Review of the total energy balance, mechanical energy balance and thermodynamics of one component system. Chemical reaction and phase equilibria of multicomponent systems, with emphasis on non-ideality.
Two lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 2F04

CHEM ENG 3D04 PROCESS MODEL FORMULATION AND SOLUTION
Formulation of models for various chemical processing units in the steady and unsteady states. Techniques for numerical solution of model equations, including algebraic and ordinary differential equations, both linear and non-linear.
Three lectures; one tutorial (one hour), every week; first term
Prerequisite: CHEM ENG 2F04; and MATH 2M06 (or 2M03 and 2M23) or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04

CHEM ENG 3G04 SIMULATION, MODELLING AND PROBLEM SOLVING
Chemical process simulation including models for heat exchangers, separators and reactors. Group skills, decision-making and self-directed, problem-based learning.
Three lectures, one tutorial (two hours); second term
Prerequisite: CHEM ENG 2G03, or both CHEM ENG 2F02 and 2G03; and credit or registration in CHEM ENG 3D03
Antirequisite: CHEM ENG 3G03

CHEM ENG 3K04 INTRODUCTION TO REACTOR DESIGN
Stoichiometry of multiple reactions, kinetics of homogeneous reactions, interpretation of batch data, design of ideal and non-ideal CSTR and plug flow reactors.
Three lectures; one tutorial (two hours); second term
Prerequisite: MATH 2M06 (or 2M03 and 2M23) or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04; and credit in CHEM ENG 2F04 and 3D03; or a grade of at least B+ in CHEM ENG 2B03 and permission of the Department

CHEM ENG 3L02 INTERMEDIATE LABORATORY SKILLS
Experiments and projects in heat transfer, thermodynamics, mass transfer and fluid mechanics with appropriate data analysis and report writing.
One lecture, one lab (three hours); second term
Prerequisite: CHEM ENG 3D03 and credit or registration in CHEM ENG 2A04 and 3C04

CHEM ENG 3M04 MASS TRANSFER AND STAGewise OPERATIONS
Stagewise operations, diffusion, mass transfer coefficients, distillation, differential contacting and absorption.
Three lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 2F04

CHEM ENG 3O04 FLUID MECHANICS
The laws of statics and dynamics in both compressible and incompressible fluids. Equations of conservation and modern turbulence and boundary layer theory applied to submerged and conduit flow. Similitude, unsteady flow, measuring devices and fluid machinery.
Three lectures, one tutorial (three hours); first term
Prerequisite: MATH 2M06 (or 2M03 and 2M23) or both MATH 2P04 and 2Q04, or both MATH 2A03 and 2C03 (any of which may be taken concurrently); and registration in a Chemical Engineering, Materials Science, Materials Engineering or Engineering Physics (Nuclear Engineering and Energy Systems Stream) program.
CHEM ENG 3P04 PROCESS CONTROL
Transient behaviour of chemical processes. Theory and practice of automatic control. Introduction to computer process control.
Three lectures, one tutorial (two hours); second term
Prerequisite: MATH 2M08 or (2M03 and 2MM3) or both MATH 2A03 and 2C03, or both MATH 2P04 and 2Q04; and credit or registration in CHEM ENG 2A04, 3E04, 3K04, 3L04
Antirequisite: CHEM ENG 3P03

CHEM ENG 3Q03 INTRODUCTION TO POLYMER SCIENCE
An overview of important synthetic and natural polymers with emphasis on polymer structure, the chemistry of polymer formation. An introduction to polymer characterization.
Three lectures; second term
Prerequisite: Of CHEM 2A03, 2E03, 2OA3, 2OB3, 2WW2

CHEM ENG 4B03 POLYMER REACTION ENGINEERING
Kinetics of polymerization: step-growth and chain-growth (free radical, anionic, cationic, and zwitterionic); Polymerization processes: solution/bulk, suspension, emulsion, gas-phase, slurry and reactive processing.
Three lectures, one tutorial (two hours); first term
Prerequisite: CHEM ENG 3K04 or 3P04

CHEM ENG 4E03 DIGITAL COMPUTER PROCESS CONTROL
This course addresses key aspects of implementing control via discrete calculations using digital computers. Topics include discrete-time digital control systems, model identification, analysis of discrete-time systems, design of digital control systems and model predictive control.
Three lectures; first term
Prerequisite: CHEM ENG 3P03 or 3P04

CHEM ENG 4G03 OPTIMIZATION IN CHEMICAL ENGINEERING
The application on optimization methods to important engineering problems in equipment design and operation, statistics, control, engineering economics and scheduling. The course will emphasize problem definition, model formulation and solution analysis, with sufficient details on existing algorithms and software to solve problems.
Three lectures; one term
Prerequisite: Of CHEM 2A03, STAT 3N03 or 3Y03

CHEM ENG 4L02 ADVANCED LABORATORY SKILLS
Experiments and projects in transport phenomena, reaction kinetics, reactor design and process control with appropriate data analysis and report writing.
One lab (three hours), one lecture; first term
Prerequisite: CHEM ENG 3L02; and registration in Level IV of any Chemical Engineering program

CHEM ENG 4L03 BIO LABORATORIES
Recombination DNA technology including cloning, directed mutagenesis, DNA sequencing and expression of cloned genes. Reaction kinetics and reactor design for enzyme and fermentation reactions. Advanced separation methods for bioprocessing operations.
Two labs (four hours); second term
Prerequisite: BIOCHEM 4H03 and registration in Honours Biochemistry (Biotechnology and Genetic Engineering Specialization); BIOCHEM 3Q03 and registration in Chemical Engineering and Bioengineering
Antirequisite: BIOCHEM 4B06, 4B88, 4F09, 4G03, 4L03
Cross-list: BIOCHEM 4L03
This course is administered by the Department of Biochemistry and Biomedical Sciences.

CHEM ENG 4M03 SEPARATIONS
Overview of separation processes, liquid-liquid extraction, supercritical fluid extraction, adsorption, filtration, membrane separation processes.
Three lectures; first term
Prerequisite: CHEM ENG 2A04, 3Q04, 3M04
Associate Members
Alex Alfredo Capretta/B.Sc., Ph.D. (McMaster), F.R.S.C.
Harald D.H. Stöver/B.Sc. (Darmstadt), Ph.D. (Ottawa)
Katharina Terlouw/B.Sc., Ph.D. (Utrecht)

Adjunct Professor
Timothy P. Bender/B.Sc., Ph.D. (Carleton)

Associate Professors
Paul J. Berti/B.Sc. (Waterloo), M.Sc. (Ottawa), Ph.D. (McGill)
John D. Brennan/B.Sc., M.Sc., Ph.D. (Toronto)/Canada Research Chair
Alfredo Capretta/B.Sc., Ph.D. (McMaster)
Randall S. Dumont/B.Sc. (Western Ontario), Ph.D. (Toronto)
Paul H.M. Harrison/B.A. (Oxford), Ph.D. (Alberta)
Jim McNulty/B.Sc., M.S., Ph.D. (Toronto)
John F. Valliant/B.Sc., Ph.D. (McMaster)
Gillian James F. Vargas-Baca/B.Sc., M.Sc. (UNAM), Ph.D. (Calgary)/Undergraduate Advisor

Assistant Professors
Alex Adronov/B.Sc. (McMaster), Ph.D. (California-Berkeley)
Paul M. Ayers/B.S. (David Lipscomb), Ph.D. (North Carolina-Chapel Hill)/Canada Research Chair
James F. Britten/B.Sc. (St. Francis Xavier), Ph.D. (McMaster)
Philip Birtz-McKibbin/B.Sc. (Toronto), Ph.D. (British Columbia)
David J.H. Emstle/Ph.D. (Bristol)
Gillian R. Goward/B.Sc. (McMaster), Ph.D. (Waterloo)
Donald W. Hughes/B.Sc., Ph.D. (McMaster)
Peter Kruse/Dipl. Chem. (FSU-Jena), Ph.D. (California-San Diego)
Philippe Lock/B.Sc., Ph.D. (McMaster)
Graham A. McGregor/B.Sc. (Toronto), Ph.D. (McMaster)
Giuseppe Melacini/B.Sc., Ph.D. (Milan)
Yuriy Mozharivskyj/B.Sc., M.Sc. (Liviv State), Ph.D. (Iowa State)
Narailchesvi Saravanamuttu/B.Sc., Ph.D. (McGill)

Associate Members
Raman Chirakal/(Radiology) B.Sc. (Kerala, India), M.Sc. (Brock), Ph.D. (McMaster)
Richard M. Epand/(Biophysics and Biomedical Sciences) AB. (Johns Hopkins), Ph.D. (Columbia)
Robert H. Pelton/(Chemical Engineering) M.Sc. (Queen), Ph.D. (Bristol)
Gerald D. Wright/(Biophysics and Biomedical Sciences) B.Sc., Ph.D. (Waterloo)
Daniel S.C. Yang/(Biophysics and Biomedical Sciences) B.Sc., M.Sc. (Alberta), Ph.D. (Pittsburgh)
184 CHEMISTRY

CHEM 20A3 ORGANIC CHEMISTRY I
An introduction to organic chemistry with emphasis on the reactions of functional groups and an introduction to spectroscopic techniques for structure determination.
Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; first term
Prerequisite: CHEM 1A03 and registration in a Level III program.
Students with a grade of less than C- in CHEM 1A03 are encouraged to seek counselling before attempting this course.
Antirequisite: CHEM 2B03, 2E03

CHEM 20B3 ORGANIC CHEMISTRY II
Nucleophile substitutions at carbonyl centres, aromatic chemistry, carbohydrates, applications of spectroscopic techniques in organic chemistry.
Three lectures, one lab (three hours) every other week; one tutorial (two hours) every other week; second term
Prerequisite: CHEM 2A03
Antirequisite: CHEM 2B03

CHEM 2PA3 THERMODYNAMICS AND PHASE EQUILIBRIA
An introduction to macroscopic and microscopic aspects of thermodynamics and their application to physical transformations.
Three lectures, one lab (three hours), one tutorial; first term
Prerequisite: CHEM 1A03, MATH 1A03
Antirequisite: CHEM 2R03, HTH SCI 2P01, PHYSICS 2H04

CHEM 2PB3 CHEMICAL THERMODYNAMICS AND KINETICS
Thermodynamics of equilibrium chemical and electrochemical systems, and macroscopic and microscopic aspects of kinetics.
Three lectures, one lab (three hours), one tutorial; second term
Prerequisite: CHEM 2PA3
Antirequisite: CHEM 2R03

CHEM 2R03 GENERAL PHYSICAL CHEMISTRY
Physical chemistry as applied to life and environmental sciences. Topics include thermodynamics, chemical equilibria, physical equilibria, transport phenomena, kinetics and enzyme kinetics.
Three lectures, first term
Prerequisite: CHEM 1A03; and ARTS & SCI 1D06 or MATH 1A03
Antirequisite: CHEM 2PA3, 2PB3, HTH SCI 2P01, PHYSICS 2H04

CHEM 2WW2 INTRODUCTORY INORGANIC CHEMISTRY
An introduction to inorganic chemistry. Emphasis on bonding and structure in inorganic compounds of representative main group and transition elements.
Two lectures; second term
Prerequisite: CHEM 1A03 or 1E03; and registration in a program administered by the Department of Materials Science and Engineering Antirequisite: CHEM 2103, 3Q03

CHEM 3A03 ANALYTICAL CHEMISTRY II
An introduction to modern instrumental methods of analysis.
Two lectures, one lab (three hours); first term
Prerequisite: CHEM 2A03 or 2N03, and CHEM 2PA3 or 2R03
Antirequisite: ENVIR SCI 3A03

CHEM 3B03 QUANTUM MECHANICS AND SPECTROSCOPY I
An introduction to quantum chemistry, quantum structures, group theory and symmetry, and vibrational and rotational spectroscopy, and molecular orbital theory.
Three lectures, one lab (three hours), one tutorial; first term
Prerequisite: CHEM 2PB3, and PHYSICS 1B03 or 1BB3
Antirequisite: CHEM 3B03

CHEM 3BB3 QUANTUM MECHANICS AND SPECTROSCOPY II
An introduction to the electronic structure and spectroscopy of atoms and molecules.
Three lectures; second term
Prerequisite: CHEM 3B03; and MATH 2A03 or 2P04
Antirequisite: CHEM 3B03

CHEM 3D03 ORGANIC CHEMISTRY
A mechanistically oriented discussion of mono- and polyfunctional organic compounds with emphasis on applications to synthesis.
Three lectures, one lab (three hours); first term
Prerequisite: CHEM 2B03 or 2D03
Antirequisite: CHEM 3F03

CHEM 3FF3 BIO-ORGANIC CHEMISTRY
Topics in bio-organic chemistry focusing on catalysis in chemistry and nature.
Three lectures, one lab (three hours); second term
Prerequisite: CHEM 2B03 or 2D03
Antirequisite: CHEM 3F03

CHEM 3103 INDUSTRIAL CHEMISTRY
A systematic study of modern processes in the chemical, petrochemical and polymer industries, as well as their environmental impact and the role of emerging green chemistry technologies.
Three lectures; first term
Prerequisite: CHEM 2E03, 2B03; or registration in a Level III program.
Antirequisite: CHEM 3L13

CHEM 3L13 CHEMISTRY LABORATORY INQUIRY
An advanced experimental chemistry laboratory.
Two labs (three hours each); second term
Prerequisite: CHEM 2A03, 2B03, 2L03, 2P03 and registration in a Level III Honours Chemistry program
Antirequisite: CHEM 4T03

CHEM 3P03 TRANSITION METAL CHEMISTRY
The chemistry of the heavier transition elements; an introduction to organo-metallic chemistry and bio-inorganic chemistry.
Three lectures, one lab (three hours); second term
Prerequisite: CHEM 3Q03

CHEM 3Q03 INORGANIC CHEMISTRY
The properties, structures and reactions of inorganic compounds with emphasis on transition metal chemistry.
Three lectures, one lab (three hours); first term
Prerequisite: CHEM 2PA3
Antirequisite: CHEM 2P01, 2W02

CHEM 3ZZ3* PROPERTIES OF MATERIALS
Familiar material properties—optical, thermal, electromagnetic and mechanical—and their exploitation in commercial applications, are investigated in terms of the physical chemistry toolkit of quantum mechanics, spectroscopy and introductory statistical mechanics.
Three lectures; second term
Prerequisite: CHEM 2PB3 and credit or registration in CHEM 3B03 or permission of the instructor
Antirequisite: CHEM 3Z03

CHEM 4A03* ADVANCED ORGANIC CHEMISTRY
An introduction to the principles of physical organic chemistry and the elucidation of organic reaction mechanisms, and either pericyclic organic reactions or organic photochemistry.
Three lectures; one term
Prerequisite: CHEM 3D03 or 3F03

CHEM 4B03 CHEMICAL APPLICATIONS OF SPECTROSCOPY
Aspects of molecular spectroscopies and their application to the solution of chemical problems.
Three lectures; one term
Prerequisite: CHEM, 3B03

CHEM 4C03* SOLID STATE CHEMISTRY
Structure and properties of crystalline solids. Topics include crystal chemistry and crystal symmetry, introduction to space groups, defects in ionic crystals, non-stoichiometry, electronic structure and properties of semiconductors and metals.
Three lectures; one term
Prerequisite: CHEM 3Q03

CHEM 4D03 ORGANIC STRUCTURE AND SYNTHESIS
Application of spectroscopic methods to structure determination. Synthetic methodology in organic chemistry.
Three lectures; one term
Prerequisite: CHEM 3D03 or 3F03

CHEM 4D04 MECHANISTIC BIOLOGICAL CHEMISTRY
Amino acid, nucleic acid, enzyme and coenzyme chemistry with emphasis on molecular reaction mechanisms.
Three lectures; one term
Prerequisite: One of CHEM 3D03, 3F03 or 3F03

CHEM 4F03* SURFACE CHEMISTRY
Current topics in surface science; surface characterization and microscopy; adsorption and heterogeneous catalysis; applications in electronic materials and nanotechnology.
Three lectures; one term
Prerequisite: CHEM 3B03 or permission of the instructor
CHEM 4G09
SENIOR THESIS
A thesis based on a research project under the direction of a Chemistry
Department faculty member.
Prerequisite: Registration in Level IV of any Honours Chemistry program
and a C.A. of at least 6.0; or permission of the Department
Antirequisite: CHEM 4G06
Enrolment is limited. See the heading Limited Enrolment Courses in the
Faculty of Science section of the Calendar.
CHEM 4P03
ADVANCED ANALYTICAL CHEMISTRY
A course dealing with modern topics in analytical chemistry.
Three lectures; one term
Prerequisite: CHEM 3A03; and CHEM 2P3B or 2R03
CHEM 4P33
POLYMER CHEMISTRY
Chemistry of monomers, polymers, polymerization mechanisms and proces-
esses, with emphasis on organic polymer chemistry.
Three lectures; one term
Corequisite: CHEM 3D03 or 3F03
CHEM 4Q03
ADVANCED QUANTUM MECHANICS
Applications of quantum mechanics to problems of chemical interest.
Three lectures; one term
Prerequisite: CHEM 3B03 or PHYSICS 3M3
CHEM 4R03
ADVANCED TRANSITION METAL CHEMISTRY
A selection from the following topics: mechanisms of reactions involving
transition metal ions; homogeneous catalysis; applications of NMR and
other physical methods; organometallic chemistry; ligand field theory.
Three lectures; one term
Prerequisite: CHEM 3P03 or permission of the instructor
CHEM 4S03
ADVANCED MAIN GROUP CHEMISTRY
A selection from the following topics: chemistry of selected main group
elements, electron deficient compounds, and applications of physical
methods to inorganic structure determination.
Three lectures; one term
Prerequisite: CHEM 3Q03

CIVIL ENGINEERING

WEB ADDRESS: http://www.eng.mcmaster.ca/civil/
John Hodgins Engineering Building, Room 301
Ext. 24287 or 24315

Faculty as of January 15, 2007

Chair
A. Ghani Razaqpur

Professors
Brian Baetz/B.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.
Ahmed Ghobarah/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster), P.Eng., Joe
Ngi/JNE Consulting Chair in Design, Construction and Management
in Infrastructure Renewal
Frederick L. Hall/B.A. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)
Gail Krantzig/B.Sc. (McGill), M.Sc., Ph.D. (Toronto)
Susan Master/B.S. (Fairleigh Dickinson), M.S.E. (West Virginia), Ph.D.
(Harvard), P.E.
Stan Pietruszczak/B.Sc., M.Sc. (Warsaw), Ph.D. (Polish Acad. Sci.)
A. Ghani Razaqpur/B.Sc. (American University of Beirut), M.Sc. (Hawaii),
Ph.D. (Calgary), P.Eng.
K.S. Sivakumaran/B.Sc. (Sri Lanka), M.Eng. (Asian Inst. Tech.), Ph.D.
(California), P.Eng.
Ph.D. (Toronto), P.Eng.

Associate Professors
Poul Pouillibaly/B.A.Sc., M.A.Sc. (Nice), Ph.D. (Leval)

Assistant Professors
Sarah Dickson/B.A.Sc., Ph.D. (Waterloo), P.Eng.
Peijun Guo/B.Sc., M.Sc., Ph.D. (SJTU), Ph.D. (Calgary)
Tyan Guo/B.Sc. (Zhejiang), M.A.Sc., Ph.D. (Toronto), P.Eng.
Michael J. Tal/b.E. Sc., Ph.D. (Western Ontario)

Adjunct Professors
Dean Ingle/B.Eng., Ph.D. (McMaster)
Syed Moin/B.Sc. (Osmania), M.S. (Nevada), Ph.D. (McMaster), P.Eng.

Department Notes:
1. All Civil Engineering courses are open to students registered in a civil
engineering program, subject to prerequisite requirements. Prior per-
mission of the Department is necessary for students from other engi-
neering departments and other faculties.

2. Unless otherwise stated, the duration and the frequency of activities
are as follows:
   - one lecture consists of one hour each week
   - one tutorial consists of two hours each week
   - one lab consists of three hours each week

Courses

CIV ENG 2A03 SURVEYING AND MEASUREMENT
Introduction to measurement and computational techniques of survey-
ing, the theory of measurement and errors, adjustment of observations;
laboratory measurement and instrumentation.
Two lectures, one tutorial or one lab; first term
Antirequisite: CIV ENG 2A02

CIV ENG 2B03 PRINCIPLES OF ENVIRONMENTAL ENGINEERING
Mass balances; fundamentals of thermodynamics, heat transfer, and envi-
ronmental chemistry and microbiology; introduction to hydrological and eco-
logical systems, water quality, water treatment and wastewater treatment.
Two lectures (two hours each), one tutorial; first term
Prerequisite: Credit or registration in CIV ENG 2B03

CIV ENG 2D04 STRUCTURAL MECHANICS
Review of stress/strain state and strain-displacement relations; plastic
deformations and residual stresses due to axial loading and bending; for-
sion of noncircular and thin-walled sections; unsymmetric bending and
eccentric axial loading, shear stresses and unsymmetric loading of thin-
walled members; transformation of stress and strain; stress/strain invari-
ants; yield and fracture criteria energy methods; stability of columns.
Three lectures, one tutorial or one lab; second term
Prerequisite: Credit or registration in ENGINEER 2P04

CIV ENG 2E03 COMPUTER APPLICATIONS IN CIVIL ENGINEERING
Numerical techniques including error analysis, root finding, linear alge-
braic equations, curve fitting, integration and differentiation, ordinary
differential equations; sensitivity analysis; use of several software pack-
geages for numerical analysis; civil engineering applications.
Two lectures, one tutorial; second term
Prerequisite: Credit or registration in ENGINEER 2P04

CIV ENG 2I03 COMMUNICATIONS IN CIVIL ENGINEERING
Oral and written communication in context of civil engineering activity. A
professional liaison program involving site visits.
Two lectures, one tutorial (three hours); first term

CIV ENG 2J04 ECOLOGICAL AND GEOLOGICAL ASPECTS OF CIVIL ENGINEERING
The relationship between humans and their earth environment. Composition
of "earth"; processes that operate on or beneath the surface. Global inter-
actions of the atmosphere, hydrosphere, lithosphere and the biosphere.
Principles of ecological systems. Man's perturbations on the biosphere.
Three lectures, one tutorial or one lab; second term
Prerequisite: Credit or registration in CIV ENG 2I03

CIV ENG 2Q04 FLUID MECHANICS
Fluid properties; hydrostatics; continuity, momentum and energy equa-
tions; potential flow; laminar and turbulent flow; flow in closed conduits,
transients, open channel flow; hydraulic cross-sections.
Three lectures, one tutorial or one lab; second term
Prerequisite: Credit or registration in ENGINEER 2P04, MATH 2M06 (or
2M03 and 2M05)

CIV ENG 2Q03 ENGINEERING MECHANICS: DYNAMICS
Kinematics and dynamics of particles and rigid bodies. Motion with respect
to a rotating frame of reference. Work, energy and momentum principles.
Two lectures, plus one unit comprising tutorials or lectures devoted to
applications, at the discretion of the instructor; first term
Prerequisite: Credit or registration in ENGINEER 2P04
Antirequisite: ENGINEER 2Q04, MATH 2Q04
CIV ENG 3A03 GEOTEchnical Engineering I
Composition of soils, soil identification and classification; compaction; seepage theory; effective stress concept; stresses and displacements using elastic solutions; consolidation theory; numerical solutions.
Two lectures, one tutorial or one lab; first term
Prerequisite: CIV ENG 2J04, 2E04

CIV ENG 3B03 GEOTEchnical Engineering II
Shear strength characteristics and failure criteria for soils; direct shear, triaxial, plate strain and field tests; earth pressure theory; bearing capacity theory; slope stability and embankment analysis.
Two lectures, one tutorial or one lab; second term
Prerequisite: Credit or registration in CIV ENG 3A03

CIV ENG 3C03 ENGINEERING SYSTEMS
Mathematical models and systems; economic comparison of projects; optimization; linear, nonlinear and dynamic programming; simulation modeling.
Two lectures, one tutorial; second term
Prerequisite: CIV ENG 2E03; and credit or registration in MATH 3J04 or STATS 3J04

CIV ENG 3G03 STRUCTURAL ANALYSIS
Structural analysis and modeling of linear elastic truss, beam and frame structures; stress resultants and deformations of statically determinate structures; methods for analysis of indeterminate structures; stiffness matrix method; plane frame computer analysis.
Two lectures, one tutorial; first term
Prerequisite: CIV ENG 2C04

CIV ENG 3J04 REINFORCED CONCRETE DESIGN
Design by limit states methods to ensure adequate capacities for bending moment, shear and diagonal tension, axial force, bond and anchorage; and design to satisfy serviceability requirements for deflection and cracking; practical design requirements; interpretation of building code for behaviour of structures.
Three lectures, one lab; second term
Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

CIV ENG 3K03 INTRODUCTION TO TRANSPORTATION ENGINEERING
A transportation impact study serves as the focus for group projects, and provides the context for application of material on traffic flow characteristics, capacity and control for signalized and unsignalized intersections, and travel demand forecasting. Safety; social impacts.
Two lectures, one tutorial; first term

CIV ENG 3L03 WATER QUALITY
Physical, chemical and biological characteristics of water; Stochiometry, reaction kinetics and material balances; mathematical modeling of physical systems; water quality in rivers, and lakes; water quality standards.
Two lectures, one tutorial; first term
Prerequisite: Credit or registration in CIV ENG 2B03
Antirequisite: CIV ENG 3M04

CIV ENG 3M03 MUNICIPAL HYDRAULICS
Analysis/design of water distribution networks; analysis and design of wastewater collection systems; pumps.
Two lectures, one tutorial or one lab; second term
Prerequisite: CIV ENG 2G04; and credit or registration in MATH 3J04 or STATS 3J04
Antirequisite: CIV ENG 3M04

CIV ENG 3P03 CIVIL ENGINEERING MATERIALS AND DESIGN
Characteristics, behavior, and use of Civil Engineering materials: concrete, metals, wood, and composites; Physical, chemical and mechanical properties; Quality control and material tests; Concepts of Structural design, limit states design, estimation of structural loads.
Three lectures, two labs (three hours each); first term
Prerequisite: CIV ENG 2C04, MATHS 1M03
Antirequisite: ENGINEER 3P03

CIV ENG 3R03 PROJECT MANAGEMENT WITH CONSTRUCTION APPLICATIONS
An introduction to construction project management; tender documents; estimating, bidding, proposals, and construction contracts; project planning, scheduling, controlling of time, cost and quality; dispute resolution; Safety Act and construction regulations; liability, legal and ethical considerations; case histories.
Two lectures, one tutorial; first term
Prerequisite: Registration in Level III or above of a Civil Engineering program

CIV ENG 3S03 STEEL STRUCTURES
Introduction to design in steel, tension and compression members, plate buckling aspects, beam instability, beam columns, bolted and welded connections. Applications employing steel structures building code.
Two lectures, one tutorial; second term
Prerequisite: Credit or registration in CIV ENG 3G03, 3P03

CIV ENG 3U03 PHYSICO-CHEMICAL PROCESSES IN WATER AND WASTEWATER TREATMENT
Water/waste water quality/characteristics; primary and secondary treatment; emphasis placed on chemical and physical stage processes, including coagulation, flocculation, sedimentation, filtration, precipitation; advanced treatment processes, including ion exchange, chemical oxidation, and membranes are also addressed.
Two lectures, one tutorial; second term
Prerequisite: One of CHEM ENG 2E04, 2F04, CIV ENG 2B03

CIV ENG 4A04 ENGINEERING HYDROLOGY
Hydrologic cycle; climate; hydrologic processes, precipitation; unit hydrograph; hydrologic statistic, hydrologic routing; groundwater flow. Design units = 1.0
Three lectures, one tutorial (three hours); first term
Prerequisite: CIV ENG 3M04

CIV ENG 4C04 ENVIRONMENTAL IMPACT AND SUSTAINABILITY
Natural and urban ecosystems; environmental impact/assessment/legislation; energy and environmental audits; life cycle analysis; solid and hazardous wastes; air quality and control; sustainable infrastructure design. Design units = 3.0
Three lectures, one tutorial, capstone project; first term
Prerequisite: Registration in the final level of a Civil Engineering program
Antirequisite: CIV ENG 4C03

CIV ENG 4D04 GEOMETRIC HIGHWAY DESIGN
Design of various types and classes of streets and highways. Theory and practice in design of intersections, interchanges, arterial highways, and freeways. Design and traffic safety concepts. Design units = 3.0
Three lectures, one tutorial; first term
Prerequisite: CIV ENG 3K03

CIV ENG 4G04 PAVEMENT MATERIALS AND DESIGN
Components of highway pavements; ground water and drainage for highway facilities; soil compaction and stabilization; aggregates; bituminous materials; asphalt mix design; flexible and rigid pavement design; embankment design. Design units = 3.0
Three lectures, one tutorial or lab; first term
Prerequisite: CIV ENG 3K03

CIV ENG 4H03 ANALYSIS OF TRANSPORTATION SYSTEMS
An introduction to the use of models in transportation planning. Topics include data issues, the four-stage approach to modeling transportation systems, discrete choice models and contextual factors such as land use. Design units = 0.0
Three lectures; one term
Prerequisite: MATH 3J04 or STATS 3J04
Cross-list: GEO 4D03
This course is administered by the School of Geography and Earth Sciences.

CIV ENG 4K04 MODERN METHODS OF STRUCTURAL ANALYSIS
Stiffness method; development and applications in structural analysis. Introduction to finite element method. Influence lines, elastic stability analysis of frames with and without sway effects. Application of computer programs. Design units = 0.0
Three lectures, one tutorial; second term
Prerequisite: CIV ENG 3G03; MATH 3J04 or STATS 3J04

CIV ENG 4L04 DESIGN OF WATER RESOURCES SYSTEMS
Investigation, planning, analysis and design of water resources systems. Introduction to GIS tools. Frequency analysis, design storms, urban drainage and analysis, floodplain analysis and flood control. Design units = 4.0
Two lectures, one tutorial (one hour), one lab; second term
Prerequisite: CIV ENG 3M04

CIV ENG 4R04 DESIGN AND SYNTHESIS OF STRUCTURES
Structural design process, gravity and lateral loading requirements, structural performance criteria, choice of structural systems. Analysis and design of different structural systems, such as frames, structural walls and slabs. Analysis and design of actual buildings. Design units = 4.0
Three lectures, one lab, capstone project; first term
Prerequisite: CIV ENG 3G03, 3J04, 3S03
CIV ENG 4S03 FOUNDATION ENGINEERING
Principles of foundation design; bearing capacity, settlement and location,footings,deep foundations,piers,piers and drilled piers; retaining walls.
Design units = 3.0
Three lectures,one tutorial;second term
Prerequisite:CIV ENG 3B03
Antirequisite:CIV ENG 4S04

CIV ENG 4W04 DESIGN OF LOW RISE BUILDINGS
Structural systems and load distribution,design of masonry,wood,and coldformed steel.Introduction to building envelope design.
Design units = 4.0
Three lectures,one tutorial;second term
Prerequisite:CIV ENG 3G03,3J04,3S03

CIV ENG 4Y04 BRIDGES AND OTHER STRUCTURAL SYSTEMS
Bridge loads and analysis for load effects.
Design of reinforced concrete solid-slab,T-beam type bridges,composite floor system and plate girders.
Stresses,ultimate strength,and design of prestressed concrete structures.
Fatigue Design.
Design units = 4.0
Three lectures,one tutorial;first term
Prerequisite:CIV ENG 3G03,3J04,3S03

CLASSICS

WEB ADDRESS: http://www.humanities.mcmaster.ca/~classics/
Togo Salmon Hall,Room 706
Ext. 24311

Faculty as of January 15,2007
Chair
Michele G. George
Professor
Associate Professors
Claude Eilers/B.A.(Saskatchewan),M.A.(McMaster),D.Phil.(Oxford)
Michele George,B.A.(Toronto),M.A.,Ph.D.(McMaster)
Evon Haley,A.B.(Dartmouth),Ph.D.(Columbia)
Assistant Professors
Sean Conner,B.A.,M.A.(Oxford),Ph.D.(Princeton)
Daniel McLean,B.A.(S.Carolina),Ph.D.(Pennsylvania)
Alexandra Retzlaff,B.A.(McGill),M.A.(British Columbia),Ph.D.(North Carolina-Chapel Hill)

Department Note:
The following courses are available as electives to qualified students in any program:
a) Classical Archaeology and Art History
CLASSICS 1A03,2B03,2C03,3G03,3H03,3Q03,3S03
b) Ancient History and Society
CLASSICS 2K03,2LA3,2LB3,2LC3,2LD3,3E03,3HH3,3M03,3TT3,3X03
c) Ancient Philosophy
CLASSICS 2P06,4K03
d) Classical Literature in Translation
CLASSICS 2D03,2E03,2Y03,2Y53,3E03,3I03,3M03,3Y03

e) Greek Language and Literature
GREEK 1Z03,1Z23,2A03,2AA3,3A03,3B03,4A03,4B03,4BB3
f) Latin Language and Literature
LATIN 1Z03,1Z23,2A03,2AA3,3A03,3B03,4A03,4B03,4BB3

CLASSICS ... 
No language other than English is required for courses listed under Classics.

Courses
If no prerequisite is listed, the course is open.

CLASSICS 1A03 INTRODUCTION TO CLASSICAL ARCHAEOLOGY
A study of the history and methodology of Greek and Roman archaeology illustrated with materials from excavated sites.

CLASSICS 1B03 MYTH AND LITERATURE: THE TROJAN WAR AND BEYOND
A study of Greek and Roman mythology and literature with emphasis on the heroes and heroes of the Trojan War. Homer's Odyssey and Vergil's Aeneid will be read in translation.

CLASSICS 1C03 HISTORY OF GREECE AND ROME
The history of Greece and Rome from the bronze age to the fall of Rome based on literary, documentary and archaeological evidence.

CLASSICS 2A03 ROMAN ART
The architecture,sculpture, and painting of the Roman world.

CLASSICS 2B03 GREEK ART
The architecture,sculpture and painting of the Greek and Hellenistic world.

CLASSICS 2D03 GREEK AND ROMAN MYTHOLOGY
A study of the myths of Greek and Roman gods and heroes, their explanation according to theories on the nature of myths, and their use by Greek and Roman authors, particularly Homer and Vergil.

CLASSICS 2E03 THE ANCIENT WORLD IN FILM
The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquet, decadent emperors), studied via Greek and Latin accounts (in translation) and cinematic versions (e.g. Electra, Medea, Mighty Aphrodite, Apocalypse Now, Spartacus, I Claudius).

CLASSICS 2K03 THE SOCIETY OF GREECE AND ROME
An examination of selected aspects of the social life of Greece and Rome. Attention will be given to subjects such as work and leisure, war and the warrior, slavery, marriage and family, and the role of women.

CLASSICS 2LA3 HISTORY OF ANCIENT GREECE
Greek from the rise of the city-state to the Peloponnesian War, with particular attention to political, social and cultural development in the light of literary and archaeological evidence.

CLASSICS 2LC3 HISTORY OF ANCIENT ROME
Latin from the Augustan period to the end of the Roman Empire.
CLASSICS 2/LB3 HISTORY OF ANCIENT GREECE II
Greece from the Peloponnesian War to the coming of Rome, with particular attention to political, social and cultural development in the light of literary and archaeological evidence.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2LB3
Antirequisite: CLASSICS 2L03, 3L03, HISTORY 2L03, 3L03
Alternates with CLASSICS 2L3.

CLASSICS 2/LC3 HISTORY OF ANCIENT ROME I
Rome from its early development to the dictatorship of Caesar, with particular attention to the political, military and social developments in the light of literary and archaeological evidence.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2LC3
Antirequisite: CLASSICS 2L13, HISTORY 2L13
Alternates with CLASSICS 2L3.

CLASSICS 2P06 ANCIENT GREEK PHILOSOPHY
A study of Western philosophical thought from its earliest beginnings to late Roman times, with emphasis on Plato and Aristotle.
Three lectures; two terms
Prerequisite: One of three units of Philosophy, ARTS&SCI 1A06, registration in a program in Classics or Philosophy or permission of the Department
Cross-list: PHILOS 2A06
This course is administered by the Department of Philosophy.

CLASSICS 2Y03 ANCIENT COMEDY
Representative texts of the Greek and/or Roman comedic authors will be read in translation and considered in their literary, historical or social contexts. Relevant texts from other genres might also be considered.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 2Y03
Antirequisite: CLASSICS 2H03
Offered in alternate years.

CLASSICS 2Y3 ANCIENT TRAGEDY
Selected plays of the Greek tragic playwrights will be read in translation and considered in their literary, historical or social contexts.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 2Y3
Offered in alternate years.

CLASSICS 3EE3 THE GREEK HISTORIANS
The study in translation of Herodotus, Thucydides, and other Greek historical writers, with consideration of the evolution of their genre and their contributions to the development of historiography.
Three lectures; one term
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2L3A, 2L3B or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3EE3
Offered in alternate years.

CLASSICS 3G03 LATE ANTIQUE AND EARLY CHRISTIAN ART
The art and architecture of the later Roman Empire, and the birth of Christian art (A.D. 200-600).
Three lectures; one term
Prerequisite: ART HIST 2C03 or CLASSICS 2C03
Cross-list: ART HIST 3G03
Alternates with CLASSICS 3H03.

CLASSICS 3H03 ARCHAIC GREEK ART
The formative period of Greek Art, from its rebirth after the Dark Ages to the Persian Wars (c. 600-480 B.C.), and its relationship to the art of the Near East.
Three lectures; one term
Prerequisite: CLASSICS 2B03
Cross-list: ART HIST 3H03
Alternates with CLASSICS 3G03.

CLASSICS 3H3 ROMAN SLAVERY
An examination of Roman slavery using a variety of sources (historical and juridical texts, funerary inscriptions, archaeological evidence) in order to determine its place in Roman social structure and its importance to the ancient economy and culture.
Three lectures; one term
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2L3D, 2L3D, 2L3P, 2P06 or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3H3
Not open to students with credit in CLASSICS 3M03 or HISTORY 3M03 if the topic was Roman Slavery.
Offered in alternate years.

CLASSICS 803 TOPICS IN CLASSICAL LITERATURE
Previous topics include: Greek and Roman Epic, Greek and Roman Elegiac and Lyric Poetry, The Legend of the Trojan War, Crime and Punishment, Satire, The Poet and Society. Consult the Department concerning the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Classics.
Cross-list: COMP LIT 3I03
CLASSICS 803 may be repeated, if on a different topic, to a total of six units.

CLASSICS 8M03 GREEK INTELLECTUAL REVOLUTION
A study of the birth of rationalistic and naturalistic thought in Greece, placing this intellectual revolution in its social, political and cultural context.
Three lectures; one term
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2L3A, 2L3B, 2P06 or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3M03
Offered in alternate years.

CLASSICS 8MM TOPICS IN ANCIENT HISTORY
Studies of Greek or Roman history and institutions. Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units from CLASSICS 2K03, 2L03, 2L3A, 2L3B, 2L3D, 2L3P or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3MM
CLASSICS 3MM may be repeated, if on a different topic, to a total of six units.

CLASSICS 8W3 GREEK SANCTUARIES
Ancient Greek sanctuaries and their social and political context. Topics will include architecture and art, as well as activities such as sacrifice, athletic-games, healing, and oracular consultation.
Three lectures; one term
Prerequisite: CLASSICS 1A03 or 2W03
Alternates with CLASSICS 3W03.

CLASSICS 8W3 THE ARCHAOEOLOGY OF THE ROMAN CITY
Urbanism in Roman Italy through an examination of the archaeological remains of Pompeii, Herculanemum, Ostia and other cities of Roman Italy.
Three lectures; one term
Prerequisite: CLASSICS 1A03 or 2W03
Alternates with CLASSICS 3W03.

CLASSICS 8T7 LEISURE AND ENTERTAINMENT IN GREECE AND ROME
Social life, leisure and festivals in the Greek and/or Roman world. Topics may include banqueting, bathing, theatre and spectacle, and religious holidays. Literature, art and archaeological evidence will be considered.
Three lectures; one term
Prerequisite: Six units of Level II or III Classics or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3T7
Antirequisite: CLASSICS 3T7
Offered in alternate years.

CLASSICS 8T7 ROMAN RELIGION
A study of the role of religion in Roman public and private life using literary, documentary and archaeological evidence.
Three lectures; one term
Prerequisite: Six units from CLASSICS 2K03, 2L3A, 2L3D, 2L3P or registration in Level III or above of a program in Classics
Cross-list: HISTORY 3T7
Offered in alternate years.

CLASSICS 8T7 CLASSICAL LITERATURES AND BEYOND
A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions. Two hours; one term
Prerequisite: Registration in Level II or above of a Classics or Comparative Literature program or permission of the Department.
Cross-list: COMP LIT 3Y03
**CLASSICS 3Y3**  
**OVID**  
Representative texts of the Latin poet Ovid will be read in translation, especially his erotic poetry and mythological stories. There will be literary analysis and later adaptations in literature and film will be considered.  
Three hours; one term  
Prerequisite: Six units from CLASSICS 2D03, 2E03, 2H03, 2Y03, 2YY3 or registration in Level III or above of a program in Classics  
Cross-list: COMP LIT 3Y3Y  
Offered in alternate years.

**CLASSICS 4B03**  
**SEMINAR IN CLASSICAL ARCHAEOLOGY**  
Consult the Department concerning the topic to be offered.  
Seminar (two hours); one term  
Prerequisite: Six units from CLASSICS 1A03, 3Q03, 3S03 and registration in Level II or above of an Honours program in Classics  
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.  
Cross-list: ART HIST 4B03  
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.

**CLASSICS 4E03**  
**SEMINAR IN ANCIENT ART**  
Consult the Department concerning the topic to be offered.  
Seminar (two hours); one term  
Prerequisite: CLASSICS 2B03, 2C03 and registration in Level III or above of an Honours program in Classics  
Cross-list: ART HIST 4B03  
CLASSICS 4B03 may be repeated, if on a different topic, to a total of six units.

**CLASSICS 4F03**  
**SEMINAR IN ANCIENT HISTORY**  
Consult the Department for the topic to be offered.  
Seminar (two hours); one term  
Prerequisite: Six units from Level II or III Classics and registration in Level III or above of an Honours program in Classics  
CLASSICS 4E03 may be repeated, if on a different topic, to a total of six units.  
Offered in alternate years.

**CLASSICS 4K03**  
**ANCIENT PHILOSOPHY**  
A critical study of one or more ancient Greek philosophers such as Parmenides, Plato, Aristotle.  
Seminar (two hours); one term  
Prerequisite: CLASSICS 2P06 and registration in Level III or above  
Cross-list: PHILOS 4K03  
Offered in alternate years.  
This course is administered by the Department of Philosophy.

**CLASSICS 4T03**  
**INDEPENDENT STUDY**  
Reading and research in Classics, supervised by a department member and culminating in a major paper to be evaluated by the supervisor, with confirmation by a second reader. See Department for more detailed guidelines.  
Tutorials: two terms  
Prerequisite: Registration in Level IV of any Honours program in Classics with a Cumulative Average of at least 9.5, and permission of the Department.

**GREEK 1203**  
**BEGINNER'S INTENSIVE ANCIENT GREEK I**  
A rapid introduction to the basic grammar of Ancient Greek.  
Three lectures; one term  
Not open to graduates of Grade 12 Greek U, who must have special permission to register in the course.

**GREEK 12Z3**  
**BEGINNER'S INTENSIVE ANCIENT GREEK II**  
This course continues the study of the grammar of Ancient Greek begun in Greek 1203.  
Three lectures; one term  
Prerequisite: GREEK 1203. Students with Grade 12 Greek U must obtain special permission to register in the course.  
This course, with a grade of at least B- is accepted as a prerequisite for admission to any Honours programs in Classics.  
Prerequisite: One of Grade 12 Greek U, GREEK 12Z3. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2A3.

**GREEK 2A03**  
**INTERMEDIATE GREEK I**  
This course continues the study of Greek grammar begun in Greek 1203 and 12Z3 and introduces students to the reading of simple passages from Greek authors.  
Three lectures; one term  
Prerequisite: One of Grade 12 Greek U, GREEK 12Z3. Students using this course as a Humanities I requirement will register for GREEK 2A03 and 2A3.

**GREEK 2A3**  
**INTERMEDIATE GREEK II**  
A study of selected passages from Greek authors designed to develop further the student's proficiency in reading Greek. The course may also include grammatical exercises.  
Three lectures; one term  
Prerequisite: GREEK 2A03.

**GREEK 3A03**  
**GREEK HISTORIANS**  
Selected readings from Greek historical authors, such as Herodotus and Thucydides.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek.

**GREEK 3B03**  
**GREEK EPIC**  
Selected readings from Homer, Hesiod, and/or other Greek epic authors.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek  
Alternates with GREEK 4B03.

**GREEK 4A03**  
**GREEK PROSE**  
Selected readings in one or more Greek prose authors.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek.

**GREEK 4B03**  
**GREEK DRAMA**  
Selected readings from Greek tragedy and/or comedy.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek  
Alternates with GREEK 3B03.

**GREEK 4B33**  
**TOPICS IN GREEK LITERATURE**  
Consult the Department for the topic to be offered.  
Three lectures; one term  
Prerequisite: Six units of Level II Greek  
GREEK 4B33 may be repeated, if on a different topic, to a total of six units.

**GREEK 4K03**  
**INDEPENDENT STUDY IN GREEK**  
Selected readings from Greek authors supervised by a member of the Department.  
Tutorials: one term  
Prerequisite: Six units of Level II Greek and registration in Level III or IV of any Honours program in Classics, and permission of the Department.

**GREEK 4B03**  
**INDEPENDENT STUDY IN GREEK**  
Selected readings from Greek authors supervised by a member of the Department.  
Tutorials: one term  
Prerequisite: Six units of Level II Greek and registration in Level III or IV of any Honours program in Classics, and permission of the Department.  
GREEK 4B03 may be repeated, if on a different topic, to a total of six units.

**Latin...**

**Latin...**

**Latin...**

Notes:  
1. Students should note that the Department has classified its Latin language courses under the following categories:  
   - Introductory Level Language Courses  
     GREEK 1203, 12Z3  
   - Intermediate Level Language Courses  
     GREEK 2A03, 2A3  

2. Students with Grade 12 Latin U should normally register in GREEK 2A03, but with special permission, may register in either GREEK 1203 or 12Z3.

**Courses**  
If no prerequisite is listed, the course is open.

**LATIN 1Z03**  
**BEGINNER'S INTENSIVE LATIN I**  
A rapid introduction to the basic grammar of Classical Latin.  
Five hours (lectures and tutorials); one term  
Not open to graduates of Grade 12 Latin U, who must obtain special permission to register in the course.
LATIN 1ZZ3 BEGINNER'S INTENSIVE LATIN II
This course continues the study of Latin grammar begun in LATIN 1Z03.
Five hours lectures and tutorials; one term
Prerequisite: LATIN 1Z03. Students with Grade 12 Latin U must obtain special permission to register in the course.
This course, with a grade of at least B+, is accepted as a prerequisite for admission to any Honours program in Classics, or, with a grade of at least C-, for admission to the B.A. program in Classics.

LATIN 2A03 INTERMEDIATE LATIN I
This course continues the study of Latin grammar begun in LATIN 1Z03 and 1ZZ3 and introduces students to the reading of simple passages from Latin authors.
Three lectures; one term
Prerequisite: One of Grade 12 Latin U, LATIN 1Z03. Students using this course as a Humanities requirement will register for LATIN 2A03 and 2A03.

LATIN 2AA3 INTERMEDIATE LATIN II
A study of selected passages from Latin authors designed to further the student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.
Three lectures; one term
Prerequisite: LATIN 2A03

LATIN 3A03 LATIN HISTORIANS
Readings in selected Latin historians such as Sallust, Livy, and Tacitus.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3

LATIN 3B03 LATIN EPIC
Readings from Vergil, and/or other epic authors.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4AA3 LATIN PROSE
Selected readings in one or more Latin prose authors.
Three lectures; one term
Prerequisite: Six units of Level II Latin

LATIN 4B03 LATIN LOVE POETRY
Readings in Latin Love Poetry.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4BB3 TOPICS IN LATIN LITERATURE
Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Latin
LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.

LATIN 4K03 INDEPENDENT STUDY IN LATIN
Selected readings from Latin authors supervised by a member of the Department.
Tutorials; one term
Prerequisite: Six units of Level II Latin; and registration in Level III or IV of any Honours program in Classics; and permission of the Department. LATIN 4K03 may be repeated, if on a different topic, to a total of six units.

COLLAB
(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

COMMERC
WEB ADDRESS: http://www.degroot.mcmaster.ca
DeGroote School of Business, Room 104 Ext. 24433

Faculty as of January 15, 2007
Chair, Strategic Market Leadership and Health Services Management Area
Kenneth R. Deal

Chair, Finance and Business Economics Area
Trevor Chamberlain

Acting Chair, Accounting and Financial Management Services Area
Mohamed Shehata

Chair, Human Resources and Management Area
Willi Wiesner

Chair, Management Science and Information Systems Area
Mahmut Parlar

Professors
Prakash L. Abad/B.Tech. (Indian Institute of Technology); M.S., M.B.A., Ph.D. (Cincinnati)/(Management Science)

Chair, Accounting and Financial Management Services Area
Trevor W. Chamberlain/B.Sc. (California-Berkeley); M.B.A. (McGill), Ph.D. (Toronto), C.A. (Finance)/Chair, Finance and Business Economics Area

Kenneth R. Deal and Health Services

Prerequisite: Six units of Level II Latin

A study of selected passages from Latin authors designed to further the student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.
Three lectures; one term
Prerequisite: LATIN 2A03

LATIN 3A03 LATIN HISTORIANS
Readings in selected Latin historians such as Sallust, Livy, and Tacitus.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3

LATIN 3B03 LATIN EPIC
Readings from Vergil, and/or other epic authors.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4AA3 LATIN PROSE
Selected readings in one or more Latin prose authors.
Three lectures; one term
Prerequisite: Six units of Level II Latin

LATIN 4B03 LATIN LOVE POETRY
Readings in Latin Love Poetry.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4BB3 TOPICS IN LATIN LITERATURE
Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Latin
LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.

LATIN 4K03 INDEPENDENT STUDY IN LATIN
Selected readings from Latin authors supervised by a member of the Department.
Tutorials; one term
Prerequisite: Six units of Level II Latin; and registration in Level III or IV of any Honours program in Classics; and permission of the Department. LATIN 4K03 may be repeated, if on a different topic, to a total of six units.

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Trevor W. Chamberlain/B.Sc. (California-Berkeley); M.B.A. (McGill), Ph.D. (Toronto), C.A. (Finance)/Chair, Finance and Business Economics Area

Kenneth R. Deal and Health Services

Prerequisite: Six units of Level II Latin

A study of selected passages from Latin authors designed to further the student's proficiency in reading Latin. Attention will be given to grammar and techniques of literary criticism.
Three lectures; one term
Prerequisite: LATIN 2A03

LATIN 3A03 LATIN HISTORIANS
Readings in selected Latin historians such as Sallust, Livy, and Tacitus.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3

LATIN 3B03 LATIN EPIC
Readings from Vergil, and/or other epic authors.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4AA3 LATIN PROSE
Selected readings in one or more Latin prose authors.
Three lectures; one term
Prerequisite: Six units of Level II Latin

LATIN 4B03 LATIN LOVE POETRY
Readings in Latin Love Poetry.
Three lectures; one term
Prerequisite: LATIN 2A03, 2AA3
Alternates with LATIN 4B03.

LATIN 4BB3 TOPICS IN LATIN LITERATURE
Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units of Level II Latin
LATIN 4BB3 may be repeated, if on a different topic, to a total of six units.

LATIN 4K03 INDEPENDENT STUDY IN LATIN
Selected readings from Latin authors supervised by a member of the Department.
Tutorials; one term
Prerequisite: Six units of Level II Latin; and registration in Level III or IV of any Honours program in Classics; and permission of the Department. LATIN 4K03 may be repeated, if on a different topic, to a total of six units.

COLLAB
(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

COMMERC
Faculty Notes:

1. Upper Level Commerce courses are not open to Business I students.
2. The Commerce courses for the Business Minor are open to students registered in any four- or five-level McMaster program. For these students, enrolment will be limited to 40 spaces per course on a first-come, first-served basis in the following courses: COMMERCE 1A03, 2A3, 2B3, 2F3, 2M3, 3A4, 3B4, 3E3, 3F3, 3MC3. Please note that all prerequisites for these courses must also be satisfied. Students registered in a McMaster Commerce, Engineering Management, or Labour Studies program (where applicable) will be guaranteed enrolment in these courses. See Minor in Business in the Faculty of Business section of this Calendar.

3. The Commerce courses for the Minor in Finance and the Minor in Accounting and Financial Management Services are open to students admitted to the Minor. Please take note that all prerequisites for these courses must also be satisfied. Students taking COMMERCE 1A03 and 2A3 as Minor in Accounting and Financial Management Services courses will also be required to have obtained a minimum grade of B- in ECON 1A06 or 1B03 as a prerequisite; or completion of ECON 2G03 or 2X03 with a minimum grade of B- as a prerequisite.

5. Level II and Level III Commerce courses are generally scheduled for three one-hour lectures per week; one term. Level IV Commerce courses are generally scheduled for two lectures per week (a two-hour lecture and a one-hour lecture); one term.

6. Level IV Commerce requirements: the six units of Level III or IV Commerce courses noted in the School of Business section of this Calendar can only be taken by Level IV Commerce students in their final year.

Courses

COMMERCE 1E03 BUSINESS ENVIRONMENT AND ORGANIZATION
This course will examine the relationship between business organizations, their functional areas and the environments - social, political, legal and regulatory and technological - that affect them.
Prerequisite: Registration in Business I

COMMERCE 1P01 ORIENTATION TO UNDERGRADUATE BUSINESS PROGRAM
This course provides entering students with a comprehensive orientation of all programs and services within the DeGroote community. This course will be taught using a combination of in-class instruction and on-line resources. Prerequisite: Registration in Business I

COMMERCE 2A3 FINANCIAL ACCOUNTING I
This is an introduction to the basic principles and practices of financial accounting, which includes an examination of income measurement and asset and liability valuation, to provide an understanding of financial accounting information and the ethics of financial reporting.
Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce or Engineering and Management program; or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program

COMMERCE 2A3 MANAGERIAL ACCOUNTING I
An introduction to concepts underlying the use of cost accounting information for managerial planning and control and for inventory valuation. The nature and analysis of costs and the usefulness and limitations of accounting data for decision-making, including ethical considerations, will be discussed.
Prerequisite: COMMERCE 2A3 and registration in any Commerce, Engineering and Management, or four or five-level non-Commerce program
COMMERC 2BA3 ORGANIZATIONAL BEHAVIOUR
The central objective of this course is to develop an understanding of human behaviour in organizations with a view toward effective management of such behaviour.
Prerequisite: Registration in any Commerce, Engineering and Management, Labour Studies, or four or five-level non-Commerce program
Antirequisite: KINES/OL 5L303

COMMERC 2FA3 INTRODUCTION TO FINANCE
This course introduces the main instruments and institutions in the Canadian financial system. The basic concepts and models of modern financial theory are introduced through lectures and "hands-on" problem solving. Topics include: the time value of money, capital budgeting, the trade-off between risk and return and security valuation.
Prerequisite: ECON 1A06 or 1B03; and one of MATH 1A03, 1M03, or 1N03; and COMMERC 2A63; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program. Students in a four- or five-level non-Commerce program must have at least B- in ECON 1A06 or 1B03. Not open to students with credit or registration in ECON 2103.

COMMERC 2MA3 INTRODUCTION TO MARKETING
This course introduces the conceptual underpinnings and operational facets of marketing with an emphasis on B2B (as opposed to industrial) focus.
Prerequisite: ECON 1A06 or 1B03 and registration in any Commerce, Engineering and Management program or a grade of at least B- in ECON 1A06 or 1B03 and registration in any four or five-level non-Commerce program

COMMERC 2QA3 COMPUTER-AUGMENTED STATISTICAL ANALYSIS
An introduction to the application of statistical analysis in managerial decision-making. The concepts of statistical analysis are applied to a variety of topics, including decision-making, estimation by sampling, hypothesis testing, analysis of variance, simple linear and multiple regression and forecasting.
Prerequisite: Finite Math (or Mathematics of Data Management U or equivalent) or STATS 1L03; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program
Antirequisite: ECON 2B03, 1TH SCI 1F03, 2A53, SOC SCI 2J03, STATS 1CC3, 2MB3, 3J04, 3N03, 3Y03

COMMERC 2QB3 INFORMATION SYSTEMS IN BUSINESS
This course examines the strategic role of information systems in modern business. Topics include: the technical foundations of information systems, the impact of information systems on business operations and decision-making and the processes that are required for successful implementation of business information systems.
Prerequisite: One of COMP SCI 1B03, 1M03, 1SA3, 1TA3, 1Z03, ENGINEER 1D04, MIVIADIA 1A03, and registration in any Commerce or four or five-level non-Commerce program or non-Engineering and Management program
Antirequisite: COMMERC 2QB3

COMMERC 2S03 COMMUNICATION, THINKING AND GROUP SKILLS
Students will be introduced to the effective use of written and oral communication skills; thinking skills including convergent, divergent and creative thinking as well as logic and rhetoric; and group and interpersonal skills including leadership. Students practice these skills in exercises concerned with current business issues.
Prerequisite: Registration in a Commerce program

COMMERC 2SB3 BUSINESS ETHICS
An analysis of ethical issues arising in contemporary business life. Sample topics include: fair and unfair competition; responsibilities towards employees, society and the environment; honesty and integrity in business; the moral status of corporations.
Prerequisite: Registration in Level II or above of any Commerce or Engineering and Management program
Cross-list: PHIL 2N03
This course is administered by the Department of Philosophy.

COMMERC 3A63 FINANCIAL ACCOUNTING II
A first course in intermediate financial accounting dealing with the theory and practice of financial statement preparation and reporting. The emphasis will be on asset valuation and the related impact on income measurement.
Prerequisite: COMMERC 2A63 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERC 3AC3 FINANCIAL ACCOUNTING III
A second course in intermediate financial accounting dealing with reporting issues that relate to liabilities and owners' equity. In particular, the concepts of recognition, measurement and disclosure of such items as bonds, taxes, leases and pensions as well as the phenomenon of off-balance sheet financing are examined.
Prerequisite: COMMERC 3A63 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)
Antirequisite: COMMERC 4AB3

COMMERC 3BC3 HUMAN RESOURCE MANAGEMENT AND LABOUR RELATIONS
This course builds on COMMERC 2BA3, focusing on human resource management and labour relations issues and practices from a general management education perspective.
Prerequisite: COMMERC 2BA3; and registration in any Commerce, Labour Studies, Engineering and Management or four or five-level non-Commerce program
Antirequisite: COMMERC 3BA3, 3BB3

COMMERC 3FA3 MANAGERIAL FINANCE
This course examines various aspects of the financial management of the firm including the sources and methods of financing, capital structure, dividend policies, mergers and acquisitions, working capital management, effects of taxation on financial decisions and international aspects of finance.
Prerequisite: COMMERC 2FA3 or ECON 2103; and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program

COMMERC 3FB3 SECURITIES ANALYSIS
This course is concerned with the analysis of marketable securities, especially common stocks. Topics include: the institutional characteristics and operation of financial markets, securities analysis and valuation, investment characteristics and strategies to increase return.
Prerequisite: COMMERC 2FA3 or ECON 2103; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERC 3FC3 INTERNATIONAL FINANCE
This course provides a framework for examining financial management decisions in an international setting. Issues examined include: foreign exchange risk management, multinational working capital management, foreign investment analysis and financing foreign operations.
Prerequisite: COMMERC 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERC 3IN0 COMMERCE INTERNSHIP PROGRAM
Career development; job strategies; skills assessment; resume/application form preparation; interview/presentation skills; orientation to the workplace. Successful completion of an eight, twelve or sixteen month Internship, employer evaluation and work term report.
Lecture/workshop (six sessions); first term or second term
Prerequisite: Successful completion of Level II Commerce. Transcript notation granted upon successful completion of an 8, 12 or 16 month approved internship.

COMMERC 3MA3 MARKETING RESEARCH
This course covers the effective obtaining, communicating and using of competitive and market intelligence. Students work in groups with a company or public organization and receive training and experience in making business presentations.
Prerequisite: COMMERC 2MA3, 2QA3 and registration in any Commerce or Engineering and Management program; or COMMERC 2MA3 and one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERC 3MB3 CONSUMER BEHAVIOUR
This course examines why people buy, ways of satisfying consumer needs more effectively and the creation of communications that will influence consumers.
Prerequisite: COMMERC 2MA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERC 3MC3 APPLIED MARKETING MANAGEMENT
This course builds upon material in COMMERC 2MA3 but is more applied in nature and covers the 4 P's in greater depth. It also has a heavier industrial and service sector component, and relies more on practical, real world cases. A major field project (student teams working with companies) is a critical part of the course.
Prerequisite: COMMERC 2MA3 and registration in any Commerce, Engineering and Management or four or five-level non-Commerce program
COMMERCe 3QA3 MANAGEMENT SCIENCE FOR BUSINESS
This course is a study of analytical approaches that assist managerial decision-making; it provides coverage of decision theory and an introduction to optimization methods, computer simulation and the general approach of management science.
Prerequisite: COMMERCe 2QA3 and registration in any Commerce or Engineering and Management program; or one of STATS 2MB3, 3J04, 3N03 or 3Y03 and registration in any Engineering and Management program.

COMMERCe 3QC3 PRODUCTION/OPERATIONS MANAGEMENT
An introduction to the production/operations function with emphasis on the use of quantitative analysis to assist decision-making. Topics include: layout of facilities, aggregate planning, scheduling, inventory control and quality control.
Prerequisite: COMMERCe 3QA3 and registration in any Commerce program
Antirequisite: COMMERCE 4QA3, MECH ENG 4C03

COMMERCe 4AA3 MANAGERIAL ACCOUNTING II
A consideration of advanced topics in management planning and control including cost behaviour determination, production planning, innovation in costing, cost allocations, variance analysis and performance evaluation for responsibility centres.
Prerequisite: COMMERCe 2AB3 or 3AA3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4AC3 FINANCIAL ACCOUNTING IV
An advanced accounting course considering specific problems of accounting for the corporate entity, such as, business combinations, intercorporate investments, consolidated financial statements, accounting for foreign operations and foreign currency transactions, segment reporting.
Prerequisite: Credit or registration in COMMERCe 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4AD3 INTRODUCTION TO AUDITING
An examination of the attest function in accounting including ethical, legal, and statutory influences in the development of auditing standards. Control structure and audit evidence will be examined.
Prerequisite: COMMERCe 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4AE3 ACCOUNTING INFORMATION SYSTEMS
This course emphasizes the understanding of the roles of accounting information and information technology in managerial decision-making, operational support, stewardship, and organizational competitiveness. Applications of concepts will be emphasized.
Prerequisite: COMMERCe 3AB3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4AF3 ACCOUNTING THEORY
A review of accounting theory as a background for applying underlying concepts to current accounting problems. The course emphasizes current literature.
Prerequisite: Credit or registration in COMMERCe 3AC3 or 4AB3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4AX3 SPECIAL TOPICS IN ACCOUNTING
Various topics in Accounting are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at the time of offering
For information on course offerings, please refer to the School of Business web site at http://www.degrote.mcmaster.ca/programs/commerce/courses.html or contact the Academic Programs Office, DSB 104. COMMERCe 4AX3 may be repeated, if on a different topic, for a total of six units.

COMMERCe 4BA3 BEHAVIOURAL ISSUES IN MANAGEMENT
Detailed analysis of employee motivation and reward systems; organizational structure; leadership and decision-making; group processes; and management of conflict and change.
Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4BB3 PERSONNEL SELECTION
This course exposes students to staffing issues in the Canadian context. Topics include job analysis, methods of recruitment and selection, human rights legislation and decision-making strategies.
Prerequisite: COMMERCe 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4BC3 COLLECTIVE BARGAINING
A survey of the nature, determinants, and impact of collective bargaining in Canada. Both the procedural and substantive aspects of collective bargaining will be studied.
Prerequisite: One of COMMERCe 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. (B.Com. students - see Note 6 above.)

COMMERCe 4BD3 SETTLEMENT OF INDUSTRIAL DISPUTES
The nature and the role of industrial conflict as well as the techniques which have been developed to control the incidence of conflict in union-management situations.
Prerequisite: One of COMMERCe 3BC3, LABR ST 2A03 or 2A06; and registration in any Commerce, Engineering and Management or Labour Studies program. COMMERCe 4BC3 is recommended. (B.Com. students - see Note 6 above.)

COMMERCe 4BE3 COMPENSATION/REWARD SYSTEMS
Key issues in designing effective pay systems are discussed. Topics include: job evaluation, market pay surveys, pay structures, performance incentives, knowledge pay and employee benefits.
Prerequisite: COMMERCe 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4BF3 LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and analysis of Canadian labour policy.
Prerequisite: COMMERCe 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see Note 6 above.)
Cross-list: LABR ST 3C03
This course is administered by Labour Studies.

COMMERCe 4BG3 PUBLIC SECTOR COLLECTIVE BARGAINING
This course examines unionization and collective bargaining for employees in the public sector. Topics include: bargaining issues, bargaining outcomes and impasse resolution.
Prerequisite: COMMERCe 3BC3; and registration in any Commerce or Engineering and Management program. Subject to space availability. (B.Com. students - see Note 6 above.)
Cross-list: LABR ST 4C03

COMMERCe 4BI3 TRAINING AND DEVELOPMENT
This course provides a framework for establishing, revising and examining training programs in organizations. Topics include: needs assessment, development of training objectives, planning and delivery of instruction, learning principles and evaluation of training.
Prerequisite: COMMERCe 3BB3 or 3BC3; and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCe 4BJ3 GENDER ISSUES IN BUSINESS
This course discusses the successes and challenges of women in business in an international context, across various professions and as entrepreneurs and business owners.
Prerequisite: Registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)
Not open to students with credit in COMMERCe 4SX3, SPECIAL TOPICS IN BUSINESS, if taken in January 1998.

COMMERCe 4BK3 THE MANAGEMENT OF TECHNOLOGY
An introduction to the innovative management of technology including the integration of the firm and technology strategy, external sourcing of technology and the internationalization of technology management.
Prerequisite: COMMERCe 2BA3 registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)
Not open to students with credit in COMMERCe 4BX3, if taken in January 1998 or 1999.

COMMERCe 4BL3 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT
This course enhances students' knowledge on managing occupational health and safety, teaches research skills, and assists students in developing strategies for creating healthy workplaces.
Prerequisite: COMMERCe 3BC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)
Not open to students with credit in COMMERCe 4BX3, if the topic was Occupational Health and Safety (2004-2005).
COMMERCE 4FM3 STRATEGIC HUMAN RESOURCE PLANNING
This course provides an understanding of the essential elements of Human Resource Planning processes in organizations. Students will acquire knowledge in analyzing, assessing and programming for human resource requirements of the organizational business plans and strategies.
Prerequisite: COMMERCE 3BC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Not open to students with credit in COMMERCE 4BM3, if the topic was Strategic Human Resource Planning (2004-2005 and 2005-2006).

COMMERCE 4BX3 SPECIAL TOPICS IN HUMAN RESOURCES/LABOUR RELATIONS
Various topics in Human Resources/Labour Relations are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at time of offering For information on course offerings, please refer to the School of Business web site at http://www.dep.roote.mcmaster.ca/programs/commerce/courses.html or contact the Academic Programs Office, DSB 104.
COMMERCE 4BX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4FA3 APPLIED CORPORATE FINANCE
This course examines the application of financial theory to a variety of problems in corporate finance. The appropriate use of valuation principles and techniques, and the design of corporate strategies intended to create shareholder wealth, are considered.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FD3 FINANCIAL INSTITUTIONS
This course examines, from a managerial perspective, the major types of financial institutions in Canada: chartered banks, trust companies, insurance companies, investment banks and other institutional investors.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FE3 OPTIONS AND FUTURES
This course provides an integrated approach to understanding the relationships between options, futures, and their underlying assets. The theory of pricing of options and futures and the application of the theory to instruments currently traded in financial markets are considered.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FF3 PORTFOLIO THEORY AND MANAGEMENT
This course offers an advanced treatment of investment decision-making and the role of financial markets in pricing securities. Topics include: portfolio selection models, the institutional environment of investment decisions, and investment and asset pricing theory.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Antirequisite: COMMERCE 4FC3

COMMERCE 4FG3 FINANCIAL THEORY
This course explores the theoretical foundations of finance and their applications to corporate finance policy. Topics covered include rational investment decisions, asset pricing, efficient markets, financial decisions and the role of information in financial decision-making.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Antirequisite: COMMERCE 4FB3

COMMERCE 4FH3 MERGERS, ACQUISITIONS AND CORPORATE CONTROL
This course examines the process by which mergers and other types of corporate control transactions take place, and the role of restructuring shifts in resource allocation by corporations.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FJ3 TRADING IN FINANCIAL MARKETS
This course attempts to develop practical skills in trading financial securities -fixed income, equities, futures and options- focusing on trading strategies based on market analysis and risk measurement.
Prerequisite: COMMERCE 3FA3; and registration in any Honours Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Enrolment is limited.

COMMERCE 4FJ3 FIXED INCOME ANALYSIS
This course provides an advanced treatment of investments in the field of fixed income analysis and focuses on fixed income securities; fixed income portfolio management and fixed income derivatives.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FK3 FINANCIAL STATEMENT ANALYSIS
This course provides a comprehensive and up-to-date treatment of the analytical methods of financial statements as an aid to decision making. The relationship between financial statements and financial statements is studied using computerized data sets on personal computers.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FL3 PERSONAL FINANCIAL MANAGEMENT
The course covers various topics that are relevant to the financial decision making of individuals. These decisions include investment, retirement planning, debt and credit management, renting vs. buying a home, insurance and risk management and personal income tax planning and strategies.
Prerequisite: COMMERCE 2FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Not open to students with credit in COMMERCE 4FX3, if the topic was Personal Financial Management (2004-2005 and 2005-2006).

COMMERCE 4FM3 VENTURE CAPITAL
This course focuses on financing and value creation strategies for early- and growth-stage companies. It is designed for students considering careers in financial services or as entrepreneurs.
Prerequisite: COMMERCE 3FA3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4FX3 SPECIAL TOPICS IN FINANCE
Various topics in Finance are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at time of offering For information on course offerings, please refer to the School of Business web site at http://www.dep.roote.mcmaster.ca/programs/commerce/courses.html or contact the Academic Programs Office, DSB 104.
COMMERCE 4FX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4MC3 NEW PRODUCT MARKETING
This course covers the management of new products from the idea stage through to product launch with a strong practical orientation. A field project is a major component of the course.
Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4MD3 BUSINESS MARKETING
An overview of business marketing including: derived demand, vendor analysis, the multiple buying unit, value analysis, competitive bidding, industrial design, key accounts, and trade shows.
Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4ME3 SALES MANAGEMENT
Cases, presentations, field work, library research, role playing and group exercises help to understand customers, the selling process, sales presentations, negotiation, legal and ethical responsibilities, self and team management.
Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.) Not open to students with credit in registration in COMMERCE 4MX3, if the topic was Sales Management.

COMMERCE 4MF3 RETAILING MANAGEMENT
The course will familiarize students with key managerial and policy issues involved in the design, implementation and assessment of the retail mix. It will cover several areas relating to the institution of retailing elements of the retail environment; and retail strategies.
Prerequisite: COMMERCE 3MC3 and registration in any Commerce or Engineering and Management program. (B.Com. students - see Note 6 above.)

COMMERCE 4PA3 BUSINESS POLICY: STRATEGIC MANAGEMENT
As the capstone to the program, this course is designed to unify the student's learning experience by exploring the formulation and implementation of corporate strategy.
Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of an Engineering and Management program.
COMMERCE 4QA3  OPERATIONS MODELLING AND ANALYSIS
A course that looks at production and operations management as practiced in engineering and manufacturing industries and the services sector.
Prerequisite: One of STATS 2MA3, 3J04, 3N03, 3Y03 or equivalent; and registration in any Engineering and Management or Mechanical Engineering program.
Antirequisite: COMMERCE 3QC3

COMMERCE 4QB3  ANALYSIS OF PRODUCTION/OPERATIONS PROBLEMS
An examination of analytical approaches to problems in the field of production/operations. The course will provide in-depth coverage of a limited number of topics. Enterprise resource planning system SAP may be used to highlight some of the concepts covered in the course.
Prerequisite: One of COMMERCE 3QC3, 4QA3 or MECH ENG 4C03; and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Enrolment is limited.

COMMERCE 4QC3  MANAGERIAL DECISION MODELLING WITH SPREADSHEETS
This application-oriented course will cover several optimization modelling techniques that can be used to support managers and engineers in a wide variety of decision making situations in finance, marketing and production.
Prerequisite: COMMERCE 3QA3 and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Enrolment is limited.

COMMERCE 4QD3  DATABASE DESIGN AND IMPLEMENTATION
This course is designed to introduce the basic concepts of database design, implementation, and management. Students will gain hands-on experience through assignments and team project.
Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)

COMMERCE 4QE3  2ND GENERATION INTERNET AND BUSINESS APPLICATION
As a result of new and converging technologies, the telecommunications industry is moving all services to the 2nd generation internet: called the broadband age. This course is a lecture/seminar course to take students through the changes and impacts of entering the broadband age. Particular attention will be paid to the business impacts of these changes to prepare students for the new business models that are emerging.
Prerequisite: COMMERCE 2QB3 and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)

COMMERCE 4QF3  PROJECT MANAGEMENT
Topics include: project selection, project organization structures, life cycles, planning, estimation, budgeting, resource allocation, contracting, project management software, reporting and controlling issues and conflict management.
Prerequisite: COMMERCE 2BA3, 3QA3 and registration in a Commerce program; or registration in an Engineering and Management program.
(B.Com. students - see Note 6 above.)

COMMERCE 4QH3  MANAGEMENT ISSUES IN ELECTRONIC BUSINESS
This course will cover the issues that the modern business manager must deal with in making strategic decisions concerning the choice, implementation, and execution of electronic business solutions.
Prerequisite: COMMERCE 2QB3 and registration in any Commerce program; or registration in any Engineering and Management program.
(B.Com. students - see Note 6 above.)

COMMERCE 4QJ3  ADVANCED ACCOUNTING TOPICS
This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as the conceptual framework, standard setting, not-for-profit accounting and fiduciary accounting.
Prerequisite: COMMERCE 4AC3, 4AF3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.
Available Summers subject to sufficient enrolments and availability of qualified instructors.

COMMERCE 4QK3  ADVANCED AUDITING
This course considers a number of advanced topics concerning both the auditor and the audit profession. It builds on the knowledge of the audit task derived in earlier courses as well as on the technical skills and breadth of knowledge obtained in earlier auditing courses.
Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.
Available Summers subject to sufficient enrolments and availability of qualified instructors.

COMMERCE 4QX3  SPECIAL TOPICS IN MANAGEMENT SCIENCE AND INFORMATION SYSTEMS
Various topics in Management Science and Information Systems are considered. They will vary depending upon recent developments in the field and upon the research interests of the instructor. The topics to be included are announced at the time of the course offering.
Prerequisite: Announced at time of offering

For information on course offerings, please refer to the School of Business web site at http://www.degroot McMaster.ca/programs/commerce/courses.html or contact the Academic Programs Office, DBS 104.
COMMERCE 4QX3 may be repeated, if on a different topic, to a total of six units.

COMMERCE 4SA3  INTERNATIONAL BUSINESS
The key features of, and trends in, the global business environment. The implications of cultural and political differences. Comparative operational practices and multinational management.
Prerequisite: COMMERCE 3MC3; and registration in Level IV of a Commerce program or Level V of any Engineering and Management program.
Antirequisite: COMMERCE 4PE3

COMMERCE 4SB3  INTRODUCTION TO CANADIAN TAXATION
The principles of Canadian federal income taxation are examined in detail, emphasizing the application of both statute and common law to individuals' and businesses' situations.
Prerequisite: Credit or registration in COMMERCE 3AB3 and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Antirequisite: COMMERCE 4PB3

COMMERCE 4SC3  ADVANCED CANADIAN TAXATION
This course continues the study of Canadian federal income taxation with an in-depth coverage of selected provisions of the Income Tax Act pertaining to business activities, particularly the activities of corporations.
Prerequisite: COMMERCE 4SB3 or 4PB3; and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Antirequisite: COMMERCE 4PC3

COMMERCE 4SD3  COMMERCIAL LAW
This course emphasizes those areas of law which are most relevant to business activity. Particular attention is given to the law relating to contracts and business organizations. Other areas of study include: sources of law, the judicial process, real and personal property, torts, agency, credit and negotiable instruments.
Prerequisite: Registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Antirequisite: COMMERCE 4PD3

COMMERCE 4SE3  ENTREPRENEURSHIP
The problems and experiences encountered in starting and developing new enterprises will be studied. A cornerstone of the course is the development of a detailed business plan for a local entrepreneur.
Prerequisite: COMMERCE 3FA3; and COMMERCE 3MA3 or 3MC3; and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)
Cross-list: JAPAN ST 4SD3

COMMERCE 4SF3  JAPANESE BUSINESS
An introduction to Japan's business system. The approach is integrative, as the course examines Japan's economic history, culture, politics, industrial policy, management practices, advertising and doing business with Japan.
Prerequisite: Registration in any Commerce, Japanese Studies or Engineering and Management program.
(B.Com. students - see Note 6 above.)

Note: Students may be repeated, if on a different topic, to a total of six above.)

COMMERCE 4SG3  ADVANCED DATABASE MANAGEMENT
Prerequisite: COMMERCE 4SB3, 4PB3; and registration in any Commerce or Engineering and Management program.
(B.Com. students - see Note 6 above.)

Available Summers subject to sufficient enrolments and availability of qualified instructors.

COURSES FOR PROFESSIONAL DESIGNATION ...

COMMERCE 4AG3  ADVANCED ACCOUNTING TOPICS
This course extends the knowledge base of earlier accounting courses and deals with specific advanced accounting topics, such as the conceptual framework, standard setting, not-for-profit accounting and fiduciary accounting.
Prerequisite: COMMERCE 4AC3, 4AF3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.
Available Summers subject to sufficient enrolments and availability of qualified instructors.

COMMERCE 4AH3  ADVANCED AUDITING
This course considers a number of advanced topics concerning both the auditor and the audit profession. It builds on the knowledge of the audit task derived in earlier courses as well as on the technical skills and breadth of knowledge obtained in earlier auditing courses.
Prerequisite: COMMERCE 4AC3, 4AD3; and registration in any Commerce or Engineering and Management program or graduation from a Commerce program.
Available Summers subject to sufficient enrolments and availability of qualified instructors.
COMMUNICATION STUDIES AND MULTIMEDIA

WEB ADDRESS: http://csmm.humanities.mcmaster.ca/
Togo Salmon Hall, Room 331
Ext. 23488

Faculty as of January 15, 2007

Chair
Graham Knight

Adjunct Professor
Laurence Mussio B.A. (Western Ontario), M.A. (McMaster), Ph.D. (York)

Associate Professors
Robert S. Hamilton M.F.A. (S A I C), M.F.A. (Jan van Eyck Academie)
Graham Knight B.A. (Kent), M.A., Ph.D. (Carleton)
Liss Platt B.F.A. (Connceticut), M.F.A. (California-San Diego)
Geoffrey Rockwell B.A. (Herford College), M.A., Ph.D. (Toronto)
Alexandre Sévigny (Communication Studies and Multimedia, French)
B.A. (York), M.A., Ph.D. (Toronto)

Assistant Professors
Christina Baadel (Communication Studies and Multimedia, School of the Arts) B.Mus. (Northwestern), M.Mus., Ph.D. (Wisconsin-Madison)
Violetta Igneskü (Communication Studies and Multimedia, Philosophy) B.A., M.A. (Western Ontario), Ph.D. (Toronto)
Andrew Macavish B.A. (Mount Saint Vincent), M.A. (Dalhousie), Ph.D. (Alberta)
Stéfan Sinclair B.A. (British Columbia), M.A. (Victoria), Ph.D. (Queen's)
Jeremy Stolow (Communication Studies and Multimedia, Sociology) B.A. (Toronto), M.A., Ph.D. (York)

Associate Member
Henry Giroux (English and Cultural Studies) B.S. (Maine), M.A. (Appalachen State), D. Arts (Carnegie-Melton) / Global Televison Network Chair in Communications

Adjunct Lecturer
Rocco Piro

COMMUNICATION STUDIES ...

Courses  If no prerequisite is listed, the course is open.

CMST 1A03 INTRODUCTION TO COMMUNICATION
Students will examine both practical and fundamental concepts in communication studies and the effects of language, mass communications, performatve acts and the Internet on social, cultural and cognitive processes in the context of the four streams of the Communication Studies Program.
Three hours (lectures and tutorials); one term

CMST 2A03 QUANTITATIVE METHODS IN COMMUNICATION RESEARCH
An introduction to the basic approaches and principles for gathering and analyzing quantitative data in communication studies. Topics include sampling techniques, interviewing, questionnaire construction, focus groups, content analysis, and the fundamentals of statistical analysis and inference.
Three hours (lectures and tutorials); one term
Prerequisite: Registration in a program in Communication Studies
Antirequisite: ANTHROP 2203, GEO 2H3, GERONTOI 2C03, HEALTHST 2B03, SOCIOI 2203

CMST 2B03 QUALITATIVE METHODS IN COMMUNICATIONS RESEARCH
An introduction to the qualitative research in communication studies. Topics may include research ethics, discourse analysis, textual analysis, ethnography, structuralist and poststructuralist approaches to the study of communication.
Three hours (lectures and tutorials); one term
Prerequisite: Registration in a program in Communication Studies

CMST 2BB3 INTRODUCTION TO CULTURE AND COMMUNICATION
An introduction to theoretical and methodological approaches to cultural studies focusing on communicative practice. Students will analyse relationships between cultural identity, producers, consumers, institutions, technologies and practices of mediated communication.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies

CMST 2C03 COMMUNICATION THEORY I: FUNDAMENTAL PERSPECTIVES
An introduction to various theories on the organization, use and manipulation of language, such as semiotics, sociolinguistics, interpersonal communication, group communication and performance.
Three hours (lectures and tutorials); one term
Prerequisite: Registration in Level II or above of a program in Communication Studies
Antirequisite: CMST 1B03

CMST 2D03 MEDIA ORGANIZATIONS
An examination of the occupational, professional and organizational structures and processes of media production in the press, radio, television and digital media. Topics include news gathering, radio and TV production practices and media management.
Three hours; one term
Prerequisite: Registration in Level II or above of a program in Communication Studies

CMST 2E03 THE NATURE OF TEXTS: FROM SLANG TO FORMAL DISCOURSE
The course will investigate a variety of styles and registers from the conversational to the literary and academic.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: LINGUIST 2E03
This course is administered by the Department of Linguistics and Languages.

CMST 2F03 PROFESSIONAL WRITING
This course offers instruction on a variety of professional communication forms such as resumes, letters of inquiry, proposals, press releases and the evaluation of web page design. Students will also read and evaluate arguments covering timely media topics such as television violence and Internet issues.
Three hours (lectures, discussion and workshops); one term
Prerequisite: Registration in Level II or above of a program in Communication Studies

CMST 2G03 PERFORMANCE AND PERFORMATIVITY
An introduction to the study of performative modes of communication such as storytelling, gesture, movement, dress. Students will learn to analyze the relationship between cultural performances, such as games, garage bands, group facilitation, or live theatre and social structures.
Three hours (lectures and discussion); one term
Prerequisite: Three units of Communication Studies and registration in Level II or above
Cross-list: SOTA 2G03

CMST 2H03 GENDER AND PERFORMANCE
An examination of gender as identities performed or constructed in complex social, historical and cultural processes and conditions, including how gender gives meaning to different performance texts, as well as to a range of performance practices in daily life.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a program in Communication Studies or Women's Studies
Cross-list: WOMEN ST 2J03
CMST 203

VISUAL LITERACY
A course of lectures and discussions that explores the concept of visual literacy and examines the ways in which fine and popular arts structure our understanding through images.
One lecture (two hours), one tutorial/discussion; one term
Prerequisite: Registration in Level II or above of a program in Communication Studies
Cross-list: ART HIST 2A03
Cross-list: THTR&FLM 2E03
This course is administered by the School of the Arts.

CMST 203

POLITICAL ECONOMY OF THE MEDIA
A comparative examination of changing patterns of ownership and control of the mass media in light of globalization, technological change, government policy, market re-structuring and corporate consolidation.
Three lectures; one term
Prerequisite: Registration in Level II or above of a program in Communication Studies
Cross-list: ART HIST 2A03
This course is administered by the School of the Arts.

CMST 203

THE HISTORY OF GRAPHIC DESIGN
An introduction to the history of graphic, two-dimensional design. The course demonstrates the admixture of high and popular culture that informs advertising, posters, book design and illustration, etc.
Three lectures; one term
Prerequisite: Registration in Level II or above.
Prior completion of ART HIST 1A03 and 1A3 is recommended.
Cross-list: ART HIST 2F03, MMEDIA 2F03
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: ART HIST 2H03, PHILOS 2H03
Offered in alternate years.
This course is administered by the Department of Philosophy.

CMST 203

DRAMATIC FORMS
Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above.
Prior completion of ART HIST 1A03 and 1A3 is recommended.
Cross-list: DRAMA 1A03, 1A3 (or 1A06); or THTR&FLM 1A03, 1B03
Cross-list: COMP LIT 2D03, THTR&FLM 2D03
Antirequisite: DRAMA 2D03
This course is administered by the School of the Arts.

CMST 203

MUSIC OF THE WORLD'S CULTURES
A survey of music traditions of non-European cultures, e.g., far Eastern, Indian, African.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: MUSIC 2A03
Offered in alternate years.
This course is administered by the School of the Arts.

CMST 203

POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: POST-WORLD WAR II
Popular music, its social meanings and media and technology interactions, from rock-and-roll to now. Topics include rhythm and blues (Chuck Berry), pop (Madonna), metal (Led Zeppelin).
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: MUSIC 213
Antirequisite: MUSIC 2A03
This course is administered by the School of the Arts.

CMST 203

POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: PRE-WORLD WAR II
Two centuries of popular music, its social meanings and media and technology interactions, emphasizing the early twentieth century. Topics include minstrelsy, early blues and musical theatre.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: MUSIC 2103
This course is administered by the School of the Arts.

CMST 203

NEW MEDIA AND PERFORMANCE
This course will explore critical issues in new media and examine the ways in which new media shape the creation, reception and interpretation of forms of performance.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies
Cross-list: THTR&FLM 2E03
Antirequisite: DRAMA 2B03
This course is administered by the School of the Arts.

CMST 203

MUSIC FOR FILM AND TELEVISION
An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: MUSIC 2F03, THTR&FLM 2T03
This course is administered by the School of the Arts.

CMST 203

POLITICS AND THE MEDIA
Theories and practices of the reciprocal relationship between the communications media and the political system.
Three hours (lectures and tutorials); one term
Prerequisite: CMST 1A03 and 1B03; or POL SCI 1G06
Cross-list: POL SCI 2Z03
This course is administered by the Department of Political Science.

CMST 203

CONFLICT AND THE MEDIA
An examination of how different forms of conflict, such as war, terrorism and industrial disputes are represented in both information and entertainment media.
Three lectures; one term
Prerequisite: Registration in Level III or above of a program in Communication Studies

CMST 203

PRACTICAL ASPECTS OF MEDIA PRODUCTION
In consultation with a faculty member, students will complete an independent project or an applied placement on an approved topic involving the application of communication skills, theories and methodologies. It is the student's responsibility to obtain the agreement of the instructor and to complete a proposal form (available in the Communication Studies Office). Independent Study proposals must be approved by the Committee of Instruction during the term before the project is to be done.
Prerequisite: Registration in Level III or IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction.

CMST 203

WOMEN AND VISUAL CULTURE
Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visual modalities such as film, video, television, advertising, etc.
Two hour lecture and discussion, plus one weekly film screening; one term
Prerequisite: Registration in Level III or above and one of ART HIST 2A03, CMST 2F03, 2I03, THTR&FLM 2B03 or both WOMEN ST 1A03 and 1A06
Cross-list: THTR&FLM 3P03, WOMEN ST 3B03
Not open to students with credit or registration in WOMEN ST 3B03 if taken in 2001-2002.
This course is administered by Women's Studies.

CMST 203

MEDIA AND SOCIAL ISSUES
An analysis of relationships between mass media and modern society. Topics may include ideology and agenda-setting in the media, representations of social problems (e.g., homelessness, violence), moral panics, media scandals, or public ceremonies.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Communication Studies program, or SOCIOL 2L03 and registration in a Sociology program
Cross-list: SOCIOL 3C03
This course is administered by the Department of Sociology.

CMST 203

READING FILM
A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.
Three hours, plus one weekly film screening; one term
Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or Theatre and Film Studies. Completion of CMST 2X03 or THTR&FLM 2F03 is recommended.
Cross-list: COMP LIT 3L03, CSSC 3C03, ENGLISH 3CC3, THTR&FLM 3R03
This course is administered by the Department of English and Cultural Studies.
An examination of the role of government policy, regulation, and law on the theories of media and how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

This course is administered by the Department of Political Science.

CMST 3E03
ARGUMENTATION THEORY
A study of some theoretical issues concerning the identification, analysis and evaluation of arguments.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Communication Studies or Political Science program
Cross-list: POL SCI 3B83
This course is administered by the Department of Political Science.

CMST 3F03
TOPICS IN VISUAL CULTURE
This course will examine a variety of topics in the critical study of visual culture, including gender and spectatorship, consumerism and the arts, and visual literacy in the 21st century.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: SOTA 3C03
This course is administered by the School of the Arts.

CMST 3G03
INTRODUCTION TO SOCIOLINGUISTICS
An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (regional, social, situational), language and gender, language and disadvantage, power, language choice, language change, pidgin and creole languages.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a program in Communication Studies (Language and Social Life Stream) or Linguistics; or permission of the Department of Linguistics and Languages
Cross-list: LINGUIST 3X03
Antirequisite: ANTHROP 3X03
This course is administered by the Department of Linguistics and Languages.

CMST 3H03
CREATING CEREMONIES
An examination of the performative aspects of ceremonies and rituals such as weddings, funerals, political inaugurations, parades, mass, festivities around such religious celebrations as Christmas and Hanukkah, and the rituals associated with theatre and concert going.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a program in Communication Studies

CMST 3I03
COMMUNICATION POLICY AND LAW
An examination of the role of governmental policy, regulation, and law on the structure and functioning of the mass media. Topics include cultural policy, communication technology policy, free speech and privacy rights.
Three lectures; one term
Prerequisite: Registration in Level III or above of a program in Communication Studies

CMST 3J03
MEDIA AUDIENCES AND EFFECTS
An examination of the media/audience relationship in light of different theories of media effects including social learning, agenda-setting, use and gratifications, active audiences and cultivation analysis.
Three lectures; one term
Prerequisite: CMST 2A03 and registration in Level III or above of a program in Communication Studies

CMST 3K03
THEORIZING CULTURE THROUGH PERFORMANCE
Students will explore artists' practices in making performances and will analyze how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.
Three hours; one term
Prerequisite: One of ART HIST 2D03, 3AA3, CMST 2G03, 2P03, 2S03, THTR&FLM 2G03, 2D03, 2E03
Cross-list: ART HIST 3L03, THTR&FLM 3J03
Not open to students with credit in DRAMA 2B03, NEW MEDIA AND PERFORMANCE, if taken in 2001-2002, or credit in THTR&FLM 2E03 if taken in 2002-2003.
Offered in alternate years.
This course is administered by Theatre & Film.
CMST 4A03  THESIS PROJECT
Students will develop and execute their own research project, in consultation with a faculty advisor. Involves regular meetings with the advisor and a public presentation of research endeavours.
Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 9.0

CMST 4B03  INDEPENDENT STUDY IN ADVANCED APPLIED COMMUNICATION
Students will apply communication skills, theories and methodologies to complete an advanced independent project in the field of communications. This will be undertaken following successful completion of relevant courses in the appropriate Stream. Entry is by application to the Committee of Instruction during the term before the course is to be taken.
Prerequisite: Registration in Level IV of a program in Communication Studies with a Cumulative Average of at least 8.5 and permission of the Committee of Instruction

CMST 4C03  ISSUES IN PERFORMANCE STUDIES
This course serves to synthesize and expand students' engagement with issues studied in performance studies courses through the examination of writings that draw on anthropology, phenomenology, materialism, psychoanalysis, gender theory, postmodernism, postcolonialism and intercultural reception.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies (Performance Studies or Cultural Studies Stream)

CMST 4D03  INTERNATIONAL COMMUNICATION
The relationship between globalization and the media is examined in light of the debates over cultural imperialism, information technology, cultural hybridization and the media's impact on economic development.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies

CMST 4E03  MEDIA AND PROMOTIONALISM
An examination of the media's role in the promotion of different interests, values and patterns of behaviour. Topics include advertising, public relations, social activism and public information campaigns.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies

CMST 4FF3  STUDIES IN FILM
Senior seminar: An examination of selected films.
Seminar (two hours); one term
Prerequisite: CMST 2S03 and registration in Level III or IV of a program in Communication Studies
Cross-list: THTR&FLM 2FF3
Priority will be given first to students registered in Level IV of any Theatre & Film Studies program and then to students registered in Level IV of the Communication Studies program.
This course is administered by the School of the Arts.

CMST 4G03  SECOND LANGUAGE ACQUISITION
The course examines empirical evidence and theoretical perspectives on language learning by adults.
Three lectures; one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages
Cross-list: LINGUIST 4G03
Antirequisite: ANTHROP 4BL3
This course is administered by the Department of Linguistics and Languages.

CMST 4I03  COMPUTERS AND LINGUISTIC ANALYSIS
This course studies the linguistic applications of computer technology in general and language processing in particular, including parsers and machine translation.
Two lectures, one lab; one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department of Linguistics and Languages
Cross-list: LINGUIST 4I03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

CMST 4L03  APPROACHES TO DISCOURSE
This course offers an overview of different approaches to the analysis of discourse. Includes semiotic, act theory, interactional sociolinguistics, ethnography of communication, pragmatics, conversation analysis and critical discourse analysis.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of a program in Communication Studies or Linguistics, or permission of the Program Counsellor for Communication Studies and Multimedia
Cross-list: LINGUIST 4L23

CMST 4M03  COMMUNICATION, CULTURE AND TECHNOLOGY, 1844-1927
This course surveys social patterns of reception and adaptation of communication technologies and their interaction with cultural constructions of (gendered) bodies, everyday life, organization of space and time, and other cultural distinctions.
Three hours (lectures and discussion); one term
Prerequisite: CMST 2B3 and registration in Level IV of a program in Communication Studies

CMST 4N03  PRODUCING AND VIEWING THE NEWS
This course will examine how the mode of production of the news influences audiences' perceptions and values of social and political life. Specific emphasis will be put on gate-keeping, agenda-setting and headline formulation.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies
Antirequisite: CMST 4K03, 4Q03, 4QQ3
Students may take only one of CMST 4N03, 4Q03 or 4QQ3.

CMST 4P03  SOCIAL ACTIVISM AND THE MEDIA
This course examines the role of print, electronic and digital media in the relationship between social movements, the state and corporate interests.
Three hours (lecture and/or seminar); one term
Prerequisite: Registration in Level IV of a program in Communication Studies

CMST 4Q03  ADVANCED TOPICS IN COMMUNICATION I
Students will learn about specific areas or aspects of research in communication studies, such as critical media discourse, culture and consumption, media and globalization, etc.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies
Antirequisite: CMST 4K03, 4N03, 4QQ3
Students may take only one of CMST 4N03, 4Q03 or 4QQ3.

CMST 4Q04  ADVANCED TOPICS IN COMMUNICATION II
Students will learn about specific areas or aspects of research in communication studies, such as critical media discourse, culture and consumption, media and globalization, etc.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level IV of a program in Communication Studies
Antirequisite: CMST 4N03, 4Q03
Students may take only one of CMST 4N03, 4Q03 or 4QQ3.

CMST 4R03  CROSS-CULTURAL COMMUNICATION
Students explore the links between language and culture and learn skills necessary to be intermediaries between cultures. Topics include: communication between genders, the cognitive role of metaphor, language and perception, emotions across cultures, culture and advertising, body language and cultural stereotyping.
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department
Cross-list: LINGUIST 4R03
Not open to students with credit in CMST 4H03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Cross-Cultural Communication.
Offered on an irregular rotation basis.
This course is administered by the Department of Linguistics and Languages.

CMST 4S03  INTERPERSONAL COMMUNICATION
This course offers an introduction to contemporary interpersonal communication theories and research. Topics include: small group communication, persuasive communication, argumentation strategies, conflict resolution, as well as computer mediated, intercultural, international and political communication.
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics courses above Level I; or permission of the Department
Cross-list: LINGUIST 4S03
Not open to students with credit in CMST 4I03, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Interpersonal Communication.
Offered on an irregular rotation basis.
This course is administered by the Department of Linguistics and Languages.
This course examines issues arising from the language-law interface, including: speaker/author identification; interpretation and transcription of police interrogations, witness statements, trial discourse; written legal language.

Seminar (two hours); one term
Prerequisite: LINGUIST 303
Cross-list: LINGUIST 4703

Not open to students with credit in CMST 4H03; TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Forensic Linguistics.
MMEDIA 3B03  TOPICS IN THE PHILOSOPHY AND HISTORY OF COMPUTING
Three hours, one term
Prerequisite: Registration in Level III or IV of the Combined Honours in Multimedia program or a program in Communication Studies

MMEDIA 3C03  ADVANCED MIDI AND DIGITAL AUDIO FOR MULTIMEDIA
The creation of digital music and audio. Students work individually and in teams to develop skills for multimedia audio production. Topics include: advanced MIDI, mixing, audio processing, and frequency equalization.
Two lectures, one tutorial; one term
Prerequisite: MMEDIA 2G03 or MUSIC 2203
Cross-list: MUSIC 3203

MMEDIA 3E03  INTERACTIVE DIGITAL CULTURE
Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.
One lecture (two hours), one tutorial; one term
Prerequisite: Registration in Level III of the Combined Honours in Multimedia program or a program in Communication Studies

MMEDIA 3E33  INTERACTIVE DIGITAL CULTURE FOR SOFTWARE ENGINEERING
Covers works, forms, theories of digitally interactive culture. Works may include hypertext fiction, computer games, interactive digital art, video, music; theories may cover hypertext, interactivity, immersion, simulation, reception, participatory culture.
One lecture (two hours), one tutorial; one term
Prerequisite: MMEDIA 2E33 and registration in the Software Engineering and Game Design program

MMEDIA 3F03  HUMAN COMPUTER INTERFACE DESIGN
Explores history and design of computer interfaces, focusing on the relationship between computers and people. Topics include computer interface usability/evaluation; drama, narrative, and interface; interface and representation; the politics of interface design.
One lecture (two hours), one tutorial; one term
Prerequisite: Six units of MMEDIA courses beyond Level I; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

MMEDIA 3G03  NETWORK SERVICES FOR MULTIMEDIA
This course covers network systems/services for multimedia, emphasizing diagnostic knowledge of networked systems and services used for multimedia deployment. Focus on Web servers; also history of networking, the Internet, and the WWW.
One lecture (two hours), one tutorial; one term
Prerequisite: Registration in the Combined Honours in Multimedia program

MMEDIA 3H03  ADVANCED COMPUTER ANIMATION
An advanced study of computer animation with a focus on 3D animation. Students will create a significant work of 3D animation and critique current examples. Readings may cover theories and techniques of animation, performance, film and narrative. Students will attend screenings. One lecture (two hours), one lab (one hour every week); one term
Prerequisite: MMEDIA 2H03 and registration in the Combined Honours in Multimedia program

MMEDIA 3I03  ADVANCED DIGITAL VIDEO
This course covers advanced digital video production and delivery (i.e. interactive video, streaming media, video in multimedia.) Readings explore video art, digital and visual culture. Students create/curate digital video projects.
One lecture (two hours), one lab (one hour every week); one term
Prerequisite: MMEDIA 2I03 and registration in the Combined Honours in Multimedia program

MMEDIA 3J03  PROGRAMMING FOR THE WEB
Students build dynamic web sites driven by databases and programmed with server-side and client-side scripting languages; examine operational database driven sites, interface design and documentation; create database-driven sites.
One lecture (two hours), one lab (one hour every week); one term
Prerequisite: MMEDIA 2D03 or 3A03; and registration in the Combined Honours in Multimedia program or the Honours Linguistic Cognitive Science program

MMEDIA 3K03  DIGITAL GAMES
A study of the form, content, and playing of digital games. Topics include: form, genre, and technology; time and space; representation and narrative; and participatory play.
One lecture (two hours), one tutorial; one term
Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program or a program in Communication Studies

MMEDIA 4A03  THE MANAGEMENT OF MULTIMEDIA
Students build and manage content collections; lead and participate in team-based multimedia production; study case histories. Readings cover the design of large media collections, management theory, copyright and intellectual property.
One lecture (two hours), one tutorial; one term
Prerequisite: Registration in Level IV of the Combined Honours in Multimedia program.
(See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

MMEDIA 4B03  SENIOR THESIS PROJECT
This course provides an opportunity to pursue individual advanced multimedia projects under the supervision of a Thesis Committee. Students will propose a multimedia project, have it approved by the Multimedia Program Committee and present their completed project publicly.
One term
Prerequisite: MMEDIA 4A03 and registration in Level IV of the Combined Honours in Multimedia program.
(See Program Note under the heading Multimedia in the Faculty of Humanities section of the Calendar.)

MMEDIA 4C03  COMPUTERS AND EDUCATION
A survey of the history of instructional technology and uses of computers in education. Students review instructional materials; create, evaluate, and present an instructional application; and study effects of technology on education.
One lecture (two hours), one tutorial; one term
Prerequisite: MMEDIA 3A03

MMEDIA 4D03  THE VISUALIZATION OF SPACE
This course will introduce students to the design and theory of the visualization of space. Projects may include the digital design of fictional spaces, sculptural objects, dramatic settings, or archaeological re-creations.
One term
Prerequisite: Registration in Level III or above of the Combined Honours in Multimedia program

COMPARATIVE LITERATURE
WEB ADDRESS:  http://www.humanities.mcmaster.ca/~complit

Courses and programs in Comparative Literature are administered within the Office of Interdisciplinary Studies of the Faculty of Humanities. For information and counselling, please contact the Director of Comparative Literature (Ext. 24091).

Faculty as of January 15, 2007

Director
John C. Stout

Professor
Joseph Adamson B.A. (Trent); M.A., Ph.D. (Toronto)

Associate Professor
Jean Wilson B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

Committee of Instruction
Joseph Adamson (English and Cultural Studies; Comparative Literature) Iris Bruce (Linguistics and Languages) Nina Kolesnikoff (Linguistics and Languages) John C. Stout (French) Jean Wilson (Comparative Literature; Linguistics and Languages)
### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisite</th>
<th>Credit Hours</th>
<th>Term Offered</th>
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<tr>
<td>COMP LIT 1A03</td>
<td>INTRODUCTION TO COMPARATIVE LITERATURE I</td>
<td>Registration in Level II or above</td>
<td>3</td>
<td>One term</td>
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<tr>
<td>COMP LIT 1A2A3</td>
<td>INTRODUCTION TO COMPARATIVE LITERATURE II</td>
<td>Registration in Level II or above</td>
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<td>One term</td>
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<td>COMP LIT 2A03</td>
<td>MODERN EUROPEAN LITERATURE I</td>
<td>Registration in Level II or above</td>
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<td>COMP LIT 2B03</td>
<td>NORTH AND SOUTH AMERICAN LITERATURES I</td>
<td>Registration in Level II or above</td>
<td>3</td>
<td>One term</td>
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<td>COMP LIT 2C03</td>
<td>WORLD LITERATURE I</td>
<td>Registration in Level II or above</td>
<td>3</td>
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<td>COMP LIT 2D03</td>
<td>DRAMATIC FORMS I</td>
<td>Registration in Level II or above</td>
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<td>COMP LIT 2F03</td>
<td>CONTEMPORARY CRITICAL APPROACHES TO LITERATURE</td>
<td>Registration in Level II or above</td>
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<td>One term</td>
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<td>COMP LIT 3A03</td>
<td>CONCEPTS OF CULTURE</td>
<td>Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or English</td>
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<td>COMP LIT 3B03</td>
<td>NORTHRUP FRYE AND GENRE</td>
<td>Registration in Level II or above</td>
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<td>One term</td>
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<td>COMP LIT 3H03</td>
<td>THE BIBLE AS LITERATURE</td>
<td>Registration in Level II or above</td>
<td>3</td>
<td>One term</td>
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<td>COMP LIT 3Y03</td>
<td>THEOLOGY AND SEXUALITY</td>
<td>Registration in Level II or above</td>
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**Notes:**

1. No language other than English is required for courses listed under Comparative Literature.
2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

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**New Course:**

**ANTIREQUISITE:** CMST

**From the mid-19th century to the present. Areas of investigation may be selected to trace historical and contemporary debates concerning culture, and masculinity studies.**

**Three lectures; one tutorial; one term**

**Prerequisite:** Registration in Level II or above

**Cross-list:** CSCT 2MM3, ENGLISH 2MM3

This course is administered by the Department of English and Cultural Studies.
COMP LIT 3C03 TWENTIETH-CENTURY THEATRE
An exploration of important formal and social experiments that marked twentieth-century theatre and paved the way for contemporary theatre forms. Lecture and discussion (three hours); one term
Prerequisite: Three units of Theatre & Film or Drama and registration in Level III or IV of a Comparative Literature program
Cross-list: THTR&FLM 3E03
Offered in alternate years.
This course is administered by the School of the Arts.

COMP LIT 3E03 KAFKA AFTER KAFKA
This course examines the influence of Franz Kafka’s fiction on writers, critics, and film makers of the twentieth century.
Three hours; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in COMP LIT 3J03, TOPICS-IN-MODERN LITERATURE if the topic was Kafka after Kafka.

COMP LIT 3F03 THE METAMORPHOSIS OF DON JUAN
The development of the myth of Don Juan from its origins to the present.
Three lectures; one term
Prerequisite: Registration in Level II or above

COMP LIT 3F03 THE LITERATURE OF THE DELINQUENT
A study of the picaresque mode in European literature from 1550 to 1800.
Three lectures; one term
Prerequisite: Registration in Level II or above

COMP LIT 3G03 EUROPEAN DRAMA
A study of representative plays by major European dramatists from the 18th century to the present.
Two hours; one term
Prerequisite: Registration in Level II or above

COMP LIT 3H03 BIBLICAL TRADITIONS IN LITERATURE
A study of the influence of the Bible on Western literature, especially English. Approaches may include the examination of symbolism, imagery, typology, doctrinal themes and narrative structures.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: ENGLISH 3503
This course is administered by the Department of English and Cultural Studies.

COMP LIT 3H03 WORLD POETRY
Using a wide range of poetry from different cultures and historical periods as examples, this course explores the numerous characteristic features that constitute the diversity of the lyric.
Seminar (two hours); one term
Prerequisite: Registration in Level II or above of a Comparative Literature program
Not open to students with credit in COMP LIT 3D03, TOPICS IN LITERARY GENRES I, if the topic was The Lyric.

COMP LIT 3I03 TOPICS IN CLASSICAL LITERATURE
Previous topics include: The Poet and Society, Greek and Roman Epic and Lyric Poetry, The Legend of the Trojan War, Satire. Consult the Department concerning topic to be offered.
Three lectures; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature program
Cross-list: CLASSICS 3I03
COMP LIT 3I03 may be repeated, if on a different topic, to a total of six units.
This course is administered by the Department of Classics.

COMP LIT 3J08 THE AGE OF ELIZABETH I
A consideration of this tumultuous age, galvanized by revolutions in exploration, religion, and selfhood, and ruled by a female monarch. Authors include Spenser, Sidney and women writers.
Three hours; two terms
Prerequisite: Registration in a program in Comparative Literature
Cross-list: ENGLISH 3J06
This course is administered by the Department of English and Cultural Studies.

COMP LIT 3J13 THE FAIRY TALE
An examination of fairy tales from a variety of cultures and historical periods. Students will also explore theories of the folklore and their implications for our understanding of other literary genres.
Seminar (two hours); one term
Prerequisite: Registration in Level II or above of a Comparative Literature program
Not open to students with credit in COMP LIT 3D03, TOPICS IN LITERARY GENRES II, if the topic was The Fairy Tale.

COMP LIT 3L03 READING FILM
A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.
Three hours, plus one weekly film screening; one term
Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English or Theatre & Film Studies. It is recommended that students should already have completed one of CMST 2X03, 2X06, DRAMA 2X06, THTR&FLM 2F03
Cross-list: CMST 3C03, CSCT 3C03, ENGLISH 3C03, THTR&FLM 3R03
This course is administered by the Department of English and Cultural Studies.

COMP LIT 3M03 THE LITERATURE OF ISRAEL AND PALESTINE
Through the study of relevant literature and film, with a focus on contemporary Israeli and Arab texts, students gain a context for the exploration of conflicts in the Middle East.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3M03

COMP LIT 3N03 WOMEN IN GERMAN LITERATURE AND CULTURE
This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: GERM 3N03, WOMEN ST 3N03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

COMP LIT 3Q03 THE HISTORY OF CRITICAL THEORY
A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aesthetics, civil society, representation, ethics and knowledge.
Three hours; one term
Prerequisite: Registration in Level III or IV of a Comparative Literature program
Cross-list: CSCT 3Q03, ENGLISH 3Q03
This course is administered by the Department of English and Cultural Studies.

COMP LIT 3Q03 CONTEMPORARY CRITICAL THEORY
This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity, and the body.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or English. COMP LIT 3Q03, CSCT 3Q03 or ENGLISH 3Q03 is recommended.
Cross-list: CSCT 3Q03, ENGLISH 3Q03
This course is administered by the Department of English and Cultural Studies.

COMP LIT 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE
A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.
Three hours; two terms
Prerequisite: Registration in Level III or IV of a Comparative Literature program
Cross-list: CSCT 3R06, ENGLISH 3R06, PEACE ST 3R06
This course is administered by the Department of English and Cultural Studies.
A study of selected literary texts of European Romanticism, including women’s writing of the period. Attention is also given to Romantic aesthetic theory.

Two hours; one term

Cross-list: PEACE ST

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: CMST

TOPICS IN NATIONAL CINEMAS I

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities. Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03; and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3Q03

Antirequisite: CMST 3T03

Offered on an irregular rotation basis.

This course is administered by the Department of the Arts.

COMP LIT 3V03

TOPICS IN NATIONAL CINEMAS II

This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: One of DRAMA 2B03, 2X06, THTR&FLM 1B03, 2E03, 2F03; and registration in Level III or IV of a Comparative Literature program

Cross-list: THTR&FLM 3Q03

Antirequisite: CMST 3TT3, DRAMA 3TT3

Offered on an irregular rotation basis.

This course is administered by the Department of the Arts.

COMP LIT 3WW3

INTERNATIONAL WOMEN WRITERS

A critical analysis of a selection of literary works by women authors from across the globe, with an emphasis on theories of gender and sexuality.

Two hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 3WW3

COMP LIT 3Y03

CLASSICAL LITERATURE AND BEYOND

A study of representative texts from the Greek and Roman literary traditions as well as their influence and afterlife in one or more later literary traditions.

Two hours; one term

Prerequisite: Registration in Level II or above of a program in Classics or Comparative Literature, or permission of the Director of Comparative Literature or the Chair of Classics

Cross-list: CLASSICS 3Y03

This course is administered by the Department of Classics.

COMP LIT 3YY3

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Representative texts of the Latin poet Ovid will be read in translation, especially his erotic poetry and mythical stories. There will be literary analysis and later adaptations in literature and film will be considered.

Three hours; one term

Prerequisite: Six units from CLASSICS 2003, 2E03, 2H03, 2Y03, 2YY3 or registration in Level III or above of a program in Classics

Cross-list: CLASSICS 3YY3

Offered in alternate years.

This course is administered by the Department of Classics.

COMP LIT 4A03

EUROPEAN ROMANTICISM

A study of selected literary texts of European Romanticism, including women’s writing of the period. Attention is also given to Romantic aesthetic theory.

Seminar (two hours); one term

Prerequisite: Registration in Level III or IV of a Comparative Literature program

Antirequisite: COMP LIT 4A3

COMP LIT 4D03

LITERATURE AS PEACE RESEARCH

An exploration of new ways of thinking about war, peace, human security and conflict transformation, with emphasis on a close study of selected literary texts.

Two hours; one term

Prerequisite: Registration in Level III or IV of a program in Comparative Literature or Peace Studies

Cross-list: PEACE ST 4D03

WEB ADDRESS: http://www.cos.mcmaster.ca

Information Technology Building, Room 202
Ex. 24614
COMPUTING AND SOFTWARE

Faculty as of January 15, 2007

Acting Chair
Martin von Mohrenschlitz

Professors
Ivan Bruha/Dipl. Ing. (CVUT, Prague), RNDr (Charles, Prague), Ph.D. (CVUT, Prague)

Frantisek Planck/M.Sc., R.N.Dr., Ryszard Janicki/M.S~.

Assistant Professors

Tamas Terlaky/M.Sc., Ph.D.

Wolfram Antoine (~.

Professors
Farreng/Ph.D.

Faculty as of January 15, 2007

Prerequisite: Credit or registration in one of MATH 1K03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

COMP SCI 1TA3 ELEMENTARY COMPUTING AND COMPUTER USE

Organization of microcomputers (hardware and operating systems) and overview of computer communications; introduction to information exchange using word processing, AppleWorks, Excel, and Lotus 1-2-3; file management; file input-output. Computer Science concepts are illustrated.

Three lectures, one tutorial; second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

COMP SCI 1TA3 ENGINEER 1D04

Not open to students registered in the Faculty of Business.

COMP SCI 1MD3 INTRODUCTION TO PROGRAMMING

Introduction to disciplined programming: programming environments; debugging; imperative programming constructs; values and types; libraries; file input-output. Computer Science concepts are illustrated.

Three lectures, one tutorial; second term

Prerequisite: Credit or registration in one of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06. COMP SCI 1MA3 is recommended

COMP SCI 1SA3 COMPUTING FUNDAMENTALS

Overview of the computer as a tool for problem solving with emphasis on design of sequential programs for problem solving. Topics covered include: organization of microcomputers (hardware and operating systems); data representation; communications and networks; the Internet and Web pages; application packages.

Three lectures, one tutorial; one term

Antirequisite: COMP SCI 1TA3, ENGINEER 1D04

COMP SCI 2CA3 COMPUTER ARCHITECTURE AND ORGANIZATION

Computer design: RISC/CISC, instruction sets, memory hierarchy; parallelism: instruction level, software level, multi-threading; storage systems: RAID levels, errors/failures, networks, clusters.

Three lectures, second term

Antirequisite: COMP SCI 2ME3

COMP SCI 2CSC COMMUNICATION SKILLS

Oral and written presentation skills; document types and structure; software documentation for the user; formulating and presenting proposals.

Three lectures; first term

Antirequisite: Registration in Level II or above

Antirequisite: SFWR ENG 3103

COMP SCI 2ME3 SOFTWARE DESIGN FUNDAMENTALS

Software development models; modularization; information hiding; specification and abstraction; software requirements; software maintenance; metrics; testing theory and strategies; documentation.

Three lectures, second term

Antirequisite: COMP SCI 2SC3

Antirequisite: SFWR ENG 2AA4

COMP SCI 2MF3 DIGITAL SYSTEMS AND SOFTWARE DESIGN FUNDAMENTALS

Basic computer technology: gates, registers, memory; machine programming; arithmetic: representations, arithmetic/logic unit, floating point systems; system component details: CPU, memory, I/O devices; pipelining.

Three lectures, one tutorial; first term

Antirequisite: COMP SCI 1MD3

Antirequisite: COMP SCI 2D04, ELEC ENG 2D04, SFWR ENG 2DA3, SFWR ENG 3F03
COMP SCI 2M3 | THEORY OF COMPUTATION
Finite state machines, regular languages, regular expressions, applications of regular languages, grammars, context-free languages, models of computation, introduction to complexity theory.
Three lectures, one tutorial (two hours); first term
Prerequisite: COMP SCI 1F3 or registration in the Mathematics and Computer Science program

COMP SCI 2003 | OBJECT ORIENTED PROGRAMMING
The object oriented approach to software: classes, objects, fields, methods; modelling and problem decomposition techniques using classes; concurrency, threads, synchronization, communication; inheritance; interface documentation; design documentation.
Three lectures, one tutorial; second term
Prerequisite: COMP SCI 2SC3

COMP SCI 2SC3 | IMPERATIVE PROGRAMMING AND BASIC DATA STRUCTURES
Disciplined programming in the C language; problem decomposition; iteration and recursion; dynamic memory allocation; design, use and implementation of elementary fixed-size and dynamic data structures.
Three lectures, one tutorial; first term
Prerequisite: COMP SCI 1M3
Antirequisite: COMP ENG 2S3

COMP SCI 3CN3 | COMPUTER NETWORKS AND SECURITY
Networked computer systems: physical media, TCP/IP protocols, switching methods; net layering and components: data link; network, transport; application: wireless, ubiquitous; secure systems: protocols, perimeter defences, access control issues, retrofitting.
Three lectures, one lab (three hours); first term
Prerequisite: COMP SCI 2SC3

COMP SCI 3DA3 | DATA STRUCTURES AND ALGORITHMS
Abstract data structures; implementation of dense and sparse structures; hashing; sorting; dynamic programming; greedy algorithms; graph algorithms; complexity; organization of libraries.
Three lectures; first term
Prerequisite: COMP SCI 3IS3, 3M13
Antirequisite: SFWR ENG 4C03

COMP SCI 3DB3 | DATA BASES
Data models, relational databases; SQL, integrity, security, object-oriented and other databases; data storage, query processing, transactions; concurrency control, recovery, distributed and parallel database architectures.
Three lectures; second term
Prerequisite: Credit or registration in COMP SCI 2SC3
Antirequisite: COMP ENG 2S4, ELEC ENG 2S4, SFWR ENG 2S03

COMP SCI 3M13 | OPERATING SYSTEMS
Processes and threads, synchronization and communication; scheduling, memory management; file systems; resource protection; structure of operating systems; distributed file systems, networking.
Three lectures; first term
Prerequisite: COMP SCI 2SC3
Antirequisite: COMP SCI 3SH3, 4SH3, SFWR ENG 3B04, 3SH3

COMP SCI 3M3 | PRINCIPLES OF PROGRAMMING LANGUAGES
Design space of programming languages; abstraction and modularization concepts and mechanisms; programming in non-procedural (functional and logic) paradigms; introduction to programming language semantics.
Three lectures; second term
Prerequisite: COMP SCI 2003, 2SC3
Antirequisite: SFWR ENG 3E03

COMP SCI 3SE3 | DESIGN OF VISUAL PROGRAMMING ENVIRONMENTS
A study of visual programming environments: events, procedures, objects and attributes; paradigms: event-driven, object-oriented; software programming languages, applications: graphical user interfaces, human factors, cognitive engineering and visualization techniques.
Three lectures; one term
Prerequisite: COMP SCI 2SC3
Corequisite: COMP SCI 2MD3

COMP SCI 3SH3 | OPERATING SYSTEM CONCEPTS
Design principles of major components of an operating system: management of processes, threads, memory, files, and I/O systems; network communication protocols, security, and command interpreter systems.
Three lectures and small projects; one term
Prerequisite: COMP SCI 2SH3 or ELEC ENG 2SH3, and one of COMP SCI 3SL4, SFWR ENG 3K03, 3L03, 3M03
Cross-list: SFWR ENG 3SH3
Antirequisite: COMP ENG 4SH4, COMP SCI 3MH3, 4SH3

COMP SCI 3SR3 | SOFTWARE REQUIREMENTS
Requirements models; requirements gathering techniques; functional and non-functional requirements; requirements validation; requirements management; legal and ethical issues.
Three lectures; first term
Prerequisite: COMP SCI 3EA3
Antirequisite: SFWR ENG 3R03

COMP SCI 4AR3 | SOFTWARE ARCHITECTURE
Software architecture concepts; architectural styles; design patterns, components, libraries, configurations; modelling languages; software re-engineering.
Three lectures; second term
Prerequisite: Credit or registration in COMP SCI 3SR3

COMP SCI 4C03 | ADVANCED OPERATING SYSTEMS
Modern operating systems: large-scale distributed to small real-time operating systems; microcomputer/mainframe interconnections; message passing techniques; networks; distributed deadlocks and shared memory models; extended file systems and shared resources.
Two lectures; one lab; one term
Prerequisite: COMP SCI 3SH3 or SFWR ENG 3B04

COMP SCI 4CD3 | DISTRIBUTED SYSTEM ARCHITECTURES
(2007-2008 ONLY)
Distributed systems: real-time, agent-oriented, heterogeneous, multi-computer, multi-processor; coupling schemes: loose, tight, networking, ATM, frame relay, clustering, software protocols; communication strategies, client/server approaches.
Two lectures; one lab; one term
Prerequisite: COMP SCI 3SH3 or SFWR ENG 3G03, or credit or registration in either PHYSICS 4D06 or both PHYSICS 4D03 and 4D33

COMP SCI 4CD3 | DISTRIBUTED COMPUTER SYSTEMS
(EFFECTIVE 2008-2009)
Distributed operating systems: deadlock, casual/concurrent events, multithreading, group communications; distributed computers: multi-processors, multi-computers, middleware, reliability; distributed services: n-tier architecture, WWW systems; special systems: real time, multimedia aware, grid-computing.
Three lectures, one lab (three hours); first term
Prerequisite: Credit or registration in COMP SCI 3M13. Completion of COMP SCI 3CN3 is recommended.

COMP SCI 4EB3 | DATABASE MANAGEMENT SYSTEM DESIGN
Concepts and structures for the design of database management systems. Topics include: data models, data normalization, data-description languages, query facilities, file organization and security.
Three lectures; one term
Prerequisite: COMP SCI 2MD3
Antirequisite: SFWR ENG 3H03, 4M03
Last offered in 2007-2008

COMP SCI 4HC3 | HUMAN COMPUTER INTERACTION
Computer-human interface designs: principles, types, models; human factors; ergonomics, physiological issues, cognitive engineering, task analysis, hardware; GUI evaluations: usability, surveys, ethnographic; practical examples; data visualization.
Three lectures; first term
Prerequisite: Credit or registration in COMP SCI 3M13 or SFWR ENG 3B04
Antirequisite: SFWR ENG 4D03
First offered in 2008-2009
COMP SCI 4IB3 ARTIFICIAL INTELLIGENCE AND KNOWLEDGE-BASED SYSTEMS

AI disciplines: perception, pattern recognition, machine learning, neural nets, image processing, scene analysis, speech processing; problem solving, production systems, backtracking, graph search techniques, planners; PROLOG. Architectures and applications of expert systems.

Three lectures; one term
Prerequisite: One of COMP SCI 2MD3, SFWR ENG 2C03, 2C04

COMP SCI 4M3 INTRODUCTION TO SCIENTIFIC COMPUTING (2007-2008 ONLY)

Principles of floating point computing; Computer number systems, floating-point arithmetic, and computational errors. Computer methods and software for scientific and engineering applications: Solving linear and nonlinear systems, data fitting, solving differential equations, and continuous optimization.

Three lectures; one term
Prerequisite: COMP SCI 3MG3, MATH 2A03, 2R03
Antirequisite: SFWR ENG 3X03

COMP SCI 4MN3 SCIENTIFIC COMPUTATION (EFFECTIVE 2008-2009)

Number representations and computer arithmetic; linear systems; linear least square; regression; root finding; Minima-Maxima; Interpolation; Integration.

Three lectures; second term
Prerequisite: COMP SCI 2CA3 or 3MG3; and MATH 2A03, 2R03
Antirequisite: SFWR ENG 3X03

COMP SCI 4TB3 SYNTAX-BASED TOOLS AND COMPILERS

Lexical analysis, syntax analysis, type checking; syntax-directed translation, attribute grammars; compiler structure; implications of computer architecture; mapping of programming language concepts; code generation and optimization.

Three lectures; second term
Prerequisite: COMP SCI 3M13 or SFWR ENG 3E03

COMP SCI 4TC3 RECURSIVE FUNCTION THEORY AND COMPUTABILITY

Recursive and primitive recursive functions, computability, decidability and undecidability, Church-Turing Thesis.

Three lectures; one term
Prerequisite: COMP SCI 3M13 or permission of the instructor
Antirequisite: MATH 4503

COMP SCI 4TD3 DESIGN AND ANALYSIS OF ALGORITHMS

Techniques for the design and analysis of algorithms, especially divide-and-conquer, greedy, and dynamic programming algorithms. An introduction to computational complexity. Analysis of particular algorithms of practical or theoretical importance in computer science.

Three lectures; one term
Prerequisite: COMP SCI 2M03, 2M13; and MATH 2Q04 or 2R03

COMP SCI 4TE3 CONTINUOUS OPTIMIZATION ALGORITHMS

Fundamental algorithms and duality concepts of continuous optimization. Motivation, applicability, information requirements and computational cost of the algorithms is discussed. Practical problems will illustrate the power of continuous optimization techniques.

Three lectures; one term
Prerequisite: MATH 2R03; and one of MATH 2A03, 2M06 (or 2M03 and 2M32); 2Q04
Cross-list: SFWR ENG 4TE3

COMP SCI 4TF3 DATA MINING: CONCEPTS AND ALGORITHMS


Three lectures; one term
Prerequisite: SFWR ENG 2H03; or COMP SCI 4EB3 and one of COMMERCE 2Q03, ECON 2B03, STATS 1CC3; or permission of the instructor.

COMP SCI 4W33 WEB SYSTEMS AND WEB COMPUTING

World wide web as networks: protocols, clients/servers and social issues; programming systems: markups, scripts, styles; platform technologies; WWW services: standard systems, browser-based, security issues, examples.

Three lectures; first term
Prerequisite: Credit or registration in COMP SCI 3MH3. Completion of COMP SCI 3CN3 is recommended.


COMP SCI 4Z03 DIRECTED READINGS

Directed readings in an area of computer science of interest to the student and the instructor.

Prerequisite: Permission of the Chair of the Department and registration in Level IV of an Honours program in Computer Science. Application for permission must be received by March 31st of the academic year prior to registration.

Enrolment is limited See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar:

COMP SCI 4ZP6 CAPSTONE PROJECT

Students, in terms of two to four students, undertake a substantial project in an area of computer science by performing each step of the software life cycle. The lecture component presents an introduction to software management and project planning.

Lecture component in Term 1, weekly tutorials; two terms
Prerequisite: Registration in Level IV of Honours Computer Science

SOFTWARE ENGINEERING ...

Department Note:

All software engineering courses are open to students registered in a software engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for other students.

Since the Software Engineering program is a CEAB accredited program, Software Engineering students are not allowed to substitute any of the required courses with Engineering Science or Engineering Design content by any courses offered by a non-CEAB accredited Engineering program.

Courses

SFWR ENG 2AA4 SOFTWARE DESIGN I - SOFTWARE COMPONENT DESIGN

Development of small software units. Precise specifications expressed using logic and discrete mathematics. Design methods and design patterns. Implementation and testing.

Three lectures, one tutorial (two hours); second term
Prerequisite: SFWR ENG 2DM3, 2S03
Corequisite: SFWR ENG 2F03
Antirequisite: COMP SCI 2ME3, SFWR ENG 2A04

SFWR ENG 2C03 DATA STRUCTURES AND ALGORITHMS

Data structures: queues, stacks, lists, heaps, trees, balanced trees, sorting, searching, graph algorithms; general techniques of design and analysis of algorithms.

Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 2MD3, 2S03
Antirequisite: COMP ENG 28C3, 2S14, COMP SCI 2MD3, 3DA3, ELEC ENG 2S14, SFWR ENG 2C04

SFWR ENG 2DA3 DIGITAL SYSTEM PRINCIPLES AND LOGIC

CO-DESIGN FOR SOFTWARE ENGINEERING

Systematic design procedures; combinatorial circuit design, design of sequential machines; redundancy, binary number representations and arithmetic, organization of large logic circuits. Introduction to logic simulators. Software/hardware co-design.

Three lectures, one lab (three hours every other week); first term
Prerequisite: Registration in a program in Software Engineering
Corequisite: SFWR ENG 2D03
Antirequisite: COMP ENG 28C3, COMP SCI 2MF3, ELEC ENG 2D14, SFWR ENG 2D03

SFWR ENG 2DM3 DISCRETE MATHEMATICS AND LOGIC I

Syntax and semantics of formal languages; propositional logic; proof systems; sets, functions, relations, and algebras; graphs and trees; finite state machines; software engineering applications.

Three lectures, one tutorial (one hour); first term
Prerequisite: MATH 1H03
Antirequisite: SFWR ENG 2E03, 2F03

SFWR ENG 2FA3 DISCRETE MATHEMATICS AND LOGIC II

First-order logic; proof by induction; definition by recursion; models of computation; computational limits and complexity; higher-order logic; software engineering applications.

Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 2DM3
Antirequisite: SFWR ENG 2E03, 2F03
SFWR ENG 2MX3 INTRODUCTION TO MATHEMATICAL MODELLING OF SYSTEMS
Linear systems, signals, filters; sampling theorem; state and frequency domain; simple input-output systems; the relation of discrete and continuous space; introduction to mathematical models of systems.
Three lectures, one tutorial (one hour); second term
Prerequisite: MATH 1H03, 1NN3; and registration in MATH 2M06 (or 2M03 and 2M04) or credit in MATH 2P04
SFWR ENG 2S03 PRINCIPLES OF PROGRAMMING
Fundamental concepts of imperative programming languages; (Assignment, Control Flow, Iteration, recursion, exceptions); Data representations; Basic concepts of operating systems; Composing and analyzing small programs.
Three lectures, one tutorial (one hour); first term
Prerequisite: ENGINEER 1D04
Antirequisite: COMP ENG 2SC1

SFWR ENG 3A04 SOFTWARE DESIGN II - LARGE SYSTEM DESIGN
Software design process, design and architecture of large systems, design for change and expansion; Documentation, inspection; Incremental design; Classes and objects, structured and object oriented analysis and design; Revision and version control; Project organization.
Three lectures, one tutorial (two hours); first term
Prerequisite: SFWR ENG 2A44, 2C03
Antirequisite: COMP SCI 3EA3

SFWR ENG 3BB4 SOFTWARE DESIGN III - CONCURRENT SYSTEM DESIGN
Processes, threads, concurrency; Synchronization mechanisms, resource management and sharing; Objects and concurrency; Design, architecture and testing of concurrent systems.
Three lectures, one tutorial (two hours); second term
Prerequisite: SFWR ENG 3A04, 3E03
Antirequisite: COMP SCI 3M03

SFWR ENG 3DX3 DYNAMIC MODELS AND CONTROL OF PHYSICAL SYSTEMS
Modelling of dynamic continuous physical phenomena in both continuous and discrete time. Control theory, stability analysis and feedback control design. Application of computer control to continuous processes.
Data analysis, empirical modelling.
Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 3X03
Antirequisite: ENGINEER 3L03

SFWR ENG 3F03 MACHINE-LEVEL COMPUTER PROGRAMMING
Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 3GA3
Antirequisite: COMP ENG 3D4, COMP SCI 2MF3

SFWR ENG 3GA3 COMPUTER ARCHITECTURE AND GRAPHICS PROCESSORS
Measures of performance, instruction set architecture, computer arithmetic, datapath and control, pipelining, the memory hierarchy. I/O systems, basics of multiprocessor systems, multimedia extensions and graphic processors.
Three lectures, one tutorial (two hours every other week); first term
Prerequisite: SFWR ENG 2D03 or 2D3A
Antirequisite: COMP ENG 4DM4, COMP SCI 2CA3, 3M03, SFWR ENG 3G03

SFWR ENG 3GB3 4D MODELLING FOR VIRTUAL REALITY
Three lectures, one tutorial (two hours every other week); first term
Prerequisite: MMEDIA 2BE3 and registration in Software Engineering and Game Design

SFWR ENG 3GC3 REAL-TIME ANIMATION FOR COMPUTER GAMES
Three lectures, two tutorials (two hours every other week); second term
Prerequisite: MMEDIA 2HE3, SFWR ENG 3GB3 and registration in Software Engineering and Game Design

SFWR ENG 3I03 COMMUNICATION SKILLS
Writing technical (reference) documentation and user (introductory) software documentation; document structure, scientific writing. The language of knowledge and information visualization methodologies.
Three hours (lectures, discussion, group project, seminars); first term
Prerequisite: ENGINEER 1C03 or 1C04
Antirequisite: COMP SCI 2CS3

SFWR ENG 3K04 SOFTWARE DEVELOPMENT FOR COMPUTER ENGINEERING
Software testing.
Three lectures, one lab (three hours); first term
Prerequisite: One of COMP ENG 2S14, ELEC ENG 2S14, SFWR ENG 2S03
Antirequisite: COMP SCI 3E03

SFWR ENG 3M04 SOFTWARE DEVELOPMENT FOR ELECTRICAL ENGINEERING
Three lectures, one lab (three hours); first term
Prerequisite: COMP ENG 2S14 or ELEC ENG 2S14

SFWR ENG 3RA3 SOFTWARE REQUIREMENTS AND SECURITY CONSIDERATIONS
Three lectures, one tutorial (one hour); first term
Prerequisite: SFWR ENG 3A04
Antirequisite: COMP SCI 4EF3, SFWR ENG 3R03, 4EF3

SFWR ENG 3S03 SOFTWARE TESTING AND MANAGEMENT
Measurement, unit testing, slicing and debugging, inspection, integration testing, regression testing, testing strategies, software metrics, software project management.
Three lectures, one tutorial (two hours every other week); second term
Prerequisite: SFWR ENG 3A04

SFWR ENG 3SH3 OPERATING SYSTEM CONCEPTS
Design principles of major components of an operating system: Management of processes, threads, memory, files, and I/O systems. Network communication protocols, security and command interpreter systems.
Three lectures and small projects; second term
Prerequisite: One of COMP ENG 2D14, ELEC ENG 2D14 or SFWR ENG 2D3A; and one of SFWR ENG 2AA4, 3K04, 3M04
Cross-list: COMP SCI 3M04
Antirequisite: COMP ENG 4SN4, COMP SCI 3M03, 4SN3

SFWR ENG 3X03 SCIENTIFIC COMPUTATION AND MATHEMATICAL SIMULATION
Three lectures, one tutorial (one hour); first term
Prerequisite: SFWR ENG 2MX3; and either MATH 2M06 (or 2M03 and 2M04) or both MATH 2P04 and 2Q04
Antirequisite: COMP ENG 3K04, COMP SCI 4MN3

SFWR ENG 4AA3 REAL-TIME SYSTEMS AND CONTROL APPLICATIONS
Three lectures, one lab (three hours every other week); first term
Prerequisite: SFWR ENG 3BB4 or 3SH3; and SFWR ENG 3DX3
Antirequisite: SFWR ENG 4A03, 4GA3

SFWR ENG 4C03 COMPUTER NETWORKS AND COMPUTER SECURITY
Physical networks, internets, the TCP/IP protocol suite, common network services. Principles of information security, computer and network security threats, defense mechanisms, encryption.
Three lectures, one lab (three hours every other week); second term
Prerequisite: SFWR ENG 3BB4
Antirequisite: COMP SCI 3CN3
SFWR ENG 4G03 DESIGN OF HUMAN COMPUTER INTERFACES
Three lectures, one tutorial (one hour); first term
Prerequisite: SFWR ENG 3B84
Antirequisite: COMP SCI 4HC3

SFWR ENG 4E03 PERFORMANCE ANALYSIS OF COMPUTER SYSTEMS
Use of queuing models and simulation to predict computer system performance and find bottlenecks in a system. Types of models, distributions. Markov models. Modelling storage and network behaviour, locks, critical sections, concurrency. Introduction to analytical system reliability.
Three lectures, one tutorial (one hour); first term
Prerequisite: SFWR ENG 3BB4. STATS 3N03 or 3Y03 is recommended.

SFWR ENG 4G03 DESIGN OF PARALLEL/DISTRIBUTED COMPUTER SYSTEMS AND COMPUTATIONS
Design of multi-computer systems for computation-intensive applications and high-reliability applications, array processing systems. Application of multi-computer systems to finite element methods, simulators, optimization problems.
Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 3G03 or 3G3A, and SFWR ENG 3BB4

SFWR ENG 4-3 SOFTWARE DESIGN IV - CAPSTONE DESIGN PROJECT
Student teams prepare the requirements, design, documentation, and implementation of a software system taking economic, health, safety, legal, marketing factors into account. Students must demonstrate a working system and convincing test results. Software project management.
Three hours (lectures, discussion, group project, seminars); two terms
Prerequisite: Registration in final level of a Software Engineering program
Antirequisite: SFWR ENG 4G03, 4GP6, 4H03

SFWR ENG 4G3 REAL-TIME SYSTEMS AND COMPUTER GAME APPLICATIONS
Hard and soft real-time systems. Safety classification. Fail-safe design, data acquisition. Applications in real-time networking, quality of service and multimedia.
Three lectures, one lab (three hours every other week); first term
Prerequisite: SFWR ENG 3BB4, 3GC3, 3DX3 and registration in Software Engineering and Game Design.
Antirequisite: SFWR ENG 4A03, 4AA3

SFWR ENG 4G4C3 SENSORY PERCEPTION, COGNITION AND HUMAN/COMPUTER INTERFACES FOR GAME DESIGN
Three lectures, one tutorial (three hours every other week); second term
Prerequisite: SFWR ENG 4D03 and registration in Software Engineering and Game Design

SFWR ENG 4GP6 SOFTWARE DESIGN IV - CAPSTONE COMPUTER GAME DESIGN PROJECT
Student teams prepare the requirements, design, documentation and implementation of a computer game taking economic, health, safety, cultural, legal and marketing factors into account. Students must demonstrate a working system and convincing test results. Software project management.
Three hours (lectures, discussion, group project, seminars); two terms
Prerequisite: Registration in Level IV of Software Engineering and Game Design.
Antirequisite: SFWR ENG 4G03, 4G06, 4H03

SFWR ENG 4G43 COMMUNICATIONS SYSTEMS
Fundamental communications concepts: information, entropy, channel capacity, codes, data compression, adaptive channel equalizers, modulation/demodulation of signals, tracking, Kalman filtering, use of specialized signal processing hardware. Software in communication systems.
Three lectures one tutorial (one hour); second term
Prerequisite: SFWR ENG 2M03. STATS 3N03 or 3Y03 is recommended.

SFWR ENG 4M03 DATABASES
Physical organization of data, file structures, need for database management systems, entity-relationship design, the relational data model, concurrent access, mechanisms for data recovery. Asorted applications.
Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 2E03 or 2DM3
Antirequisite: COMP SCI 3DB3, 4EB3, SFWR ENG 3H03

SFWR ENG 4-03 OPERATIONS RESEARCH
Linear programming, integer programming, decision trees, network flow problems, graph algorithms, route planning, applications to engineering problems.
Three lectures, one tutorial (one hour); second term
Prerequisite: SFWR ENG 3X03

SFWR ENG 4T3 CONTINUOUS OPTIMIZATION ALGORITHMS
Fundamental algorithms and general duality concepts of continuous optimization. Special attention will be paid to the applicability of the algorithms, their information requirements and computational costs. Practical engineering problems will illustrate the power of continuous optimization techniques.
Three lectures, one tutorial (one hour); first term
Prerequisite: 2M06 (or 2M03 and 2M(X)) or 2Q04
Cross-list: COMP SCI 4T3

CULTURAL STUDIES AND CRITICAL THEORY
Courses in Cultural Studies and Critical Theory are administered within the Department of English and Cultural Studies of the Faculty of Humanities. For information and counselling, please contact the Department of English and Cultural Studies in Chester New Hall, Room 321.

Department Notes:
1. The following are courses open as electives to students registered in Level II or above of any undergraduate program.
   - CSCT 203 Contemporary Popular Culture
   - CSCT 303 Science Fiction
   - CSCT 3EE3 African American Literature
   - CSCT 3RR3 African Literature and Film
   - CSCT 3W03 Contemporary Native Literature in Canada (note prerequisite for this course)
   - CSCT 3X03 Contemporary Native Literature in the United States (note prerequisite for this course)
   - CSCT 3Y03 Children's Literature
   - CSCT 3YY3 Contemporary Youth Culture
   Please note that the Department is able to offer only a limited selection of elective courses each year.
2. Courses restricted to students registered in the Cultural Studies and Critical Theory program may be available to qualified students in other programs if space permits. Students interested in such courses should request permission from the departmental counsellor.
3. Level IV seminars are open only to Combined Honours Cultural Studies and Critical Theory students registered in Level IV. Enrolment will be limited and departmental permission is required. A list of seminars to be offered will be available prior to registration and bailing for seminars for the next academic year will take place in March.

Courses
- If no prerequisite is listed, the course is open.
  - CSCT 1803 CULTURAL STUDIES AND VISUAL CULTURE
    An introduction to cultural studies focusing on the critical and conceptual tools for the analysis of various forms of visual culture (e.g., photography, film, television, advertising, new media technologies). Considerable emphasis is placed on the development of effective writing skills.
    Two lectures, one tutorial; one term
    Cross-list: ENGLISH 1803
  - CSCT 1803 CULTURAL STUDIES AND CONSUMER CULTURE
    An overview of the development of cultural studies as an interdisciplinary field of academic inquiry through an exploration of the history of mass and consumer culture. Considerable emphasis will be placed on the development of critical skills in reading and writing.
    Two lectures, one tutorial; one term
    Cross-list: ENGLISH 1803
CULTURAL STUDIES AND CRITICAL THEORY

CSCT 2J03 CONTEMPORARY POPULAR CULTURE
This course explores the concept of popular culture through an examination of specific cultural forms, with emphasis on analytic skills informed by cultural and critical theory.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: ENGLISH 2J03

CSCT 2K06 STUDIES IN WOMEN WRITERS
A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory will be a component of the course.
Three hours; two terms
Prerequisite: Registration in a program in Cultural Studies and Critical Theory or Women's Studies
Cross-list: ENGLISH 2K06, WOMEN ST 2K06

CSCT 2M03 CONCEPTS OF CULTURE
An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms and practices will allow students to trace historical and contemporary debates concerning culture.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies, Comparative Literature or Cultural Studies and Critical Theory
Cross-list: COMP LIT 2E03, ENGLISH 2M03
Antirequisite: CMST 2M03

CSCT 2M03 MODERN COUNTERCULTURES
An exploration of a variety of cultural forms (e.g., literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism and punk.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies, Comparative Literature or Cultural Studies and Critical Theory
Cross-list: COMP LIT 2E03, ENGLISH 2M03
Antirequisite: CMST 2M03

CSCT 2P03 MODERNITY/POSTMODERNITY/VISUALITY
This course will examine modernity and postmodernity through an exploration of a variety of theoretical discourses and representational practices, with specific reference to visual culture.
Three hours; one term
Prerequisite: Registration in a program in Cultural Studies and Critical Theory
Antirequisite: ENGLISH 2P03

CSCT 2S03 SPECTACULAR BODIES
This course examines the representations and constructions of the racialized, gendered, ethnic, or othered human body in and through contemporary cultural texts.
Three hours; one term
Prerequisite: Registration in a program in Cultural Studies and Critical Theory
Antirequisite: ENGLISH 2S03

CSCT 3A03 CRITICAL RACE STUDIES
This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or Women's Studies
Cross-list: COMP LIT 3A03, ENGLISH 3A03, PEACE ST 3A03, WOMEN ST 3H03

CSCT 3AA3 THEORIES OF GENDER AND SEXUALITY
This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or Women's Studies
Cross-list: COMP LIT 3AA3, ENGLISH 3AA3, WOMEN ST 3H03

CSCT 3CC3 READING FILM
A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.
Three hours, plus one weekly film screening; one term
Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory or Theatre & Film Studies. It is recommended that students should already have completed THTR&FLM 2F03.
Cross-list: CMST 3CC3, COMP LIT 3L03, ENGLISH 3CC3, THTR&FLM 3R03

CSCT 3D03 SCIENCE FICTION
An examination of a number of standard science fiction tropes such as time travel, lost worlds, utopia/dystopia, totalitarian societies, alien races and post-holocaust societies.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: ENGLISH 3D03
Not open to students with credit in ENGLISH 3J13. TOPICS IN PROSE, if the topic was Science Fiction.

CSCT 3EE3 AFRICAN AMERICAN LITERATURE
A study of selected texts by African American writers published since 1900, considered in the context of African American history and literary tradition.
Three lectures; one term
Prerequisite: Registration in a program in Comparative Literature or Cultural Studies and Critical Theory
Cross-list: ENGLISH 3EE3
Not open to students with credit in ENGLISH 3J13. TOPICS IN PROSE, if the topic was African American Fiction.

CSCT 3G03 THE HISTORY OF CRITICAL THEORY
A survey of the main developments in critical theory from Plato to the end of the 19th century. Areas of investigation may include: art, aestheticism, civil society, representation, ethics and knowledge.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature or Cultural Studies and Critical Theory
Cross-list: ENGLISH 3G03

CSCT 3QQ3 CONTEMPORARY CRITICAL THEORY
This course examines selected issues in contemporary critical theory. Areas of investigation may include: representation, power/knowledge, discourse, subjectivity and the body.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature or Cultural Studies and Critical Theory.
Cross-list: ENGLISH 3QQ3

CSCT 3R06 POSTCOLONIAL CULTURES: THEORY AND PRACTICE
A study of contemporary texts including literature, film, art and other forms of popular culture that map the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, language and representation.
Three hours; two terms
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory or Peace Studies
Cross-list: COMP LIT 3R06, ENGLISH 3R06, PEACE ST 3E06

CSCT 3RR3 AFRICAN LITERATURE AND FILM
This course introduces students to a selection of literary texts and films from countries across the African continent.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: ENGLISH 3RR3

CSCT 3W03 CONTEMPORARY NATIVE LITERATURE IN CANADA
A study of significant works by Native writers who give voice to their experience in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies and stereotyping.
Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor.
Cross-list: ENGLISH 3W03, INDIG ST 3D03, PEACE ST 3W03
This course is administered by Indigenous Studies.
A study of contemporary works by Native writers in the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory.

Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor
Cross-list: ENGLISH 3X03, INDIG 3E03, PEACE 3 ST 3X03
This course is administered by Indigenous Studies.

CSCT 3Y03  CHILDREN’S LITERATURE
A critical evaluation of literary works from approximately 1700 to the present, written primarily for children.

Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: ENGLISH 3Y03
Not open to students with credit in ENGLISH 3I03, TOPICS IN PROSE, if the topic was Children’s Literature.

CSCT 3Y03 CONTEMPORARY YOUTH CULTURE
An examination of contemporary youth culture through dominant representations of identity. Themes include: violence, sex/sexuality, age, gender, technology, music and dance, countercultures, subcultures, private/public space.

Three hours; one term
Prerequisite: Registration in Level II or above
Anti-requisite: ENGLISH 3Y03

CSCT 4X03 HONOURS ESSAY
In consultation with members of the Cultural Studies and Critical Theory program and the English and Cultural Studies Department, students will prepare an essay on an approved topic. This course is normally substituted for three units of Level IV seminar work in the second term. Students who are interested in taking CSCT 4X03 should contact the faculty member chairing the CSCT 4X03 committee early in first term.

Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Departmental permission required.

Note:
Level IV Seminars are open only to Honours students registered in Level IV of a Cultural Studies and Critical Theory or English program. Enrolment will be limited to 15 students per seminar when possible. The Department of English and Cultural Studies is able to offer only a selection of the seminars listed below every year. A list of seminars to be offered will be available prior to registration, which takes place through the Department in March.

CSCT 4A03 AFRICAN-AMERICAN WOMEN WRITERS
A study of a selection of African-American women writers, including Hurston, Walker, Morrison and Naylor, with a consideration of gender and race in literary theory.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4A03
Departmental permission required.

CSCT 4A53 THE AESTHETICS OF SEX IN THE 1890s
This course will focus on the ideologically related struggles of 1890s men and women to express radical forms of sexuality in literature and on the aesthetics and politics that enforced divisions along gender lines.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4A53
Departmental permission required.

CSCT 4A93 ASIAN AMERICAN WRITING
A study of selected texts by Americans and/or Canadians of Asian origin with a focus on race, ethnicity, gender, sexuality, class, immigration, multiculturalism, transnationalism and diaspora.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4A93
Departmental permission required.

CSCT 4BB3 BLACK POPULAR CULTURE
This course focuses on the production and reception of black popular culture (particularly the entertainment industry and professional sports) in ways that problematize the racialization of cultural forms of expression.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4BB3
Departmental permission required.

CSCT 4CB3 READING THE BESTSELLER: CONTEMPORARY BRITISH FICTION
An examination of possible critical vocabularies for the analysis of recent British fiction in light of how bestseller lists, prizes, publicity and media adaptability now shape the writing, marketing and reading of fiction.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4CB3
Departmental permission required.

CSCT 4CF3 CONTEMPORARY FICTION
A study of recent English and American fiction, with emphasis on metafiction as well as the relationship between contemporary literary theory and fiction.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4CF3
Departmental permission required.

CSCT 4CJ3 CRUSADE AND JIHAD
The medieval battles over Jerusalem semantically haunt the present and recent past, the relationship of Muslim, Christian and Jewish life and politics.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4CJ3
Departmental permission required.

CSCT 4EM3 MODERNISM AND EMPIRE
An examination of the formalistic, ideological and political relationship between British modernism and postcolonial studies through reading literary texts and cultural-historical contexts of modernism.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4EM3
Departmental permission required.

CSCT 4FR3 FANTASIES OF THE ORIENT IN EIGHTEENTH-CENTURY BRITAIN
This course explores how eighteenth-century England registered and imagined "the other" through "the Oriental", as well as how the Orient shaped emerging literary genres and modes.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4FR3
Anti-requisite: ENGLISH 4F03
Departmental permission required.

CSCT 4FT3 THE FAIRY TALE
A study of the fairy tale from the structuralist, psychoanalytic and sociological points of view, concentrating on the tales of the Brothers Grimm in translation and considering the importance of fairy tales in acculturation and their symbolic significance.

Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4FT3
Departmental permission required.
CST 4H3 CULTURAL STUDIES AND CRITICAL THEORY
THE HISTORY OF CULTURAL STUDIES
A study of the history of cultural studies from its origins in the Frankfurt School, through the Birmingham Centre for Contemporary Cultural Studies, to its dispersal into distinct modes of academic practice.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4H3
Departmental permission required.

CST 4I3 DISLOCATION AND BELONGING: CANADIAN WRITINGS OF IMMIGRATION AND DIASPORA
This course examines works by and about people who have moved between cultural locations to consider questions of cultural and cross-cultural identity.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4I3
Departmental permission required.

CST 4J3 CROSSING BORDERS: GLOBAL FEMINISMS
This course examines how women's lives are being transformed in a changing global society and the implications of women's changing places in society for feminist theory and practice.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4J3
Departmental permission required.

CST 4L3 CROSSING BORDERS: GLOBAL FEMINISMS
This course examines how women's lives are being transformed in a changing global society and the implications of women's changing places in society for feminist theory and practice.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4L3
Departmental permission required.

CST 4M3 EIGHTEENTH-CENTURY MACHINE LIFE
This seminar will explore how metaphors and constructions of the machine pushed the boundaries of what it meant to be human during the eighteenth century.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4M3
Departmental permission required.

CST 4N3 MEMORIALIZING THE PAST: MEMORY INDUSTRY OF POST-APARTHEID SOUTH AFRICA
A study of some of the ways in which the past is re-imagined in post-1994 South African cultural texts.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4N3
Departmental permission required.

CST 4O3 MODERNISM AND THE POLITICS OF FORM
Reading of modernist texts in the light of the contested relationship of formal/technical experimentation with the politics of race, gender, colonialism and other modes of power relations.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4O3
Departmental permission required.

CST 4P3 THE "OPRAH EFFECT"
This seminar considers the influence of Oprah Winfrey at various sites of cultural contestation: television, magazine publication, women's body images, entrepreneurship, celebrity activism, race, "self-help.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4P3
Departmental permission required.

CST 4Q3 PSYCHE AND CULTURE
This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity and imaginative culture (the arts and literature).
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4P3
Antirequisite: COMPLIT 4C03, 4F03
Departmental permission required.

CST 4R3 THE MEMORY INDUSTRY OF MODERNISM AND THE POLITICS OF FORM
This course explores what the Romantics meant when they spoke of the "self," and how they began to rethink it as both a glowing ideal and a source of cultural antagonism and resentment.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4R3
Departmental permission required.

CST 4S3 SHAKESPEARE AND SHAKESPEARE'S SISTERS
By examining works from different genres, this course explores the ways gender expectations shaped women's and men's contributions to popular and elite culture in early modern England.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4P3
Departmental permission required.

CST 4T3 TORTURED SUBJECTS OF ROMANTICISM
This course explores what the Romantics meant when they spoke of the "self," and how they began to rethink it as both a glowing ideal and a source of cultural antagonism and resentment.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4T3
Departmental permission required.

CST 4U3 UTOPIAN LITERATURE
A study of the genre through English literature, from its roots in Plato's Republic, through the Middle Ages and the Renaissance to contemporary literature.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4U3
Departmental permission required.

CST 4V3 WOMAN AND THE NATION IN INDIAN POPULAR CINEMA
An examination of Indian popular cinema (Bollywood) and its construction of the nation through representations of women. Themes may include: partition, religion, sexuality, minority, caste, diaspora.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of a Combined Honours program in Cultural Studies and Critical Theory
Cross-list: ENGLISH 4V3
Departmental permission required.
Cultural Studies and Critical Theory
Departmental Seminar

Associate Chair
Atif
Assistant Professors
A. Abigail

Adjunct Assistant Professor
Cultural Studies and Critical Theory

Chair

Adjunct Associate Professor

Associate Members
Alok
Michael R. Mestelman

William M. Thomas

M. A. (Queen's), Ph. D. (British Columbia)

Katherine Chan
Ph. D. (Wisconsin-Madison)

Jeremiah E. Hurley
Ph. D. (Wisconsin-Madison)

Stephen R. G. Jones

Byron Letendre
Ph. D. (Wisconsin-Madison)

Marc-Andre Letendre
Ph. D. (Wisconsin-Madison)

Peter J. Leach
Ph. D. (Queen's)

Wayne Lewchuk
Ph. D. (Queen's)

Stephen G. Jones
Ph. D. (Cambridge)

R. Andrew Muller
Ph. D. (Toronto)

Jeffrey S. Racina
Ph. D. (McMaster)

William M. Scarth
Ph. D. (McMaster)

Michael R. Veall
Ph. D. (Western Ontario)

Associate Professors

Paul Conteoyannis
Ph. D. (University of York)

Thomas F. Crossley
Ph. D. (McMaster)

Katherine Cuff
Ph. D. (Queen's)

Alouk John-B.A. (Delhi), M.A. (Delhi School of Economics), Ph.D. (Boston)

Marc-André Letendre B.A., M.A. (McGill University)

A. Abigail Payne
Ph. D. (McMaster)

Ramashree MacKinnon
Ph. D. (McMaster)

Adjunct Associate Professor

Paul Grootendorst (Clinical Epidemiology and Biostatistics) B.A. (Victoria), M.A. (Queen's), Ph. D. (McMaster)

Assistant Professors

Philip DeCicca B.A. (Cornell), M.P.A. (Syracuse), Ph. D. (Michigan)

Michel Grignon M.A. (ENSAS), Ph. D. (HESS)

Seungjin Han B. Econ. (Korea University), M.A. (McGill University), Ph. D. (Toronto)

Peter J. McCabe B.A. (Boston College), Ph. D. (Northwestern)

Shintaro Yamaguchi Ph. D. (Wisconsin-Madison)

Adjunct Assistant Professor

Emile Tompa B.A. (York), M.B.A. (British Columbia), Ph. D. (McMaster)

Associate Members

Dean C. Mountain B.A. (McMaster), M.A., Ph. D. (Western Ontario)

Gregory L. Stoddart Clinical Epidemiology and Biostatistics) B.A. (Western Ontario), Ph. D. (British Columbia)

Jean-Eric Tarride (Health Economics), Ph. D. (Concordia)

Department Notes:
1. Not all the Economics courses listed in this Curriculum are taught every year. Students are advised to consult the timetable published by the Office of the Registrar, or the Department handbook for information on current offerings.
2. Students with credit in ECON 2X03 who transfer into Economics from other programs must substitute ECON 2X03 for ECON 2G03.
3. Students who complete ECON 2103 are well placed to enrol in the Canadian Securities Course (a correspondence course operated by the Canadian Securities Institute which represents the licensing requirement for individuals training to become investment advisors).
4. Many graduate programs in Economics require ECON 3G03, 4T03 and 4T13. Students interested in an M.A. in Economics are advised to consult a departmental advisor for more detailed information.

Courses
If no prerequisite is listed, the course is open.

ECON 1B03  INTRODUCTORY MICROECONOMICS
An introduction to the method and theory of microeconomics, and their application to the analysis of contemporary economic problems.
Three lectures; one term
Antirequisite: ECON 1A06

ECON 1BB3 INTRODUCTORY MACROECONOMICS
An introduction to the method and theory of macroeconomics, and their application to the analysis of contemporary economic problems.
Three lectures; one term
Antirequisite: ECON 1A06

ECON 2A03  ECONOMICS OF LABOUR-MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market, discrimination in hiring and promotion; unemployment; job loss and workplace closing; work sharing.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

Cross-list: LABR ST 3A03

Not open to students with credit or registration in ECON 3D03.

ECON 2B03  ANALYSIS OF ECONOMIC DATA
Application of statistical concepts to the analysis of economic data, with attention to Canadian sources. Regression analysis and the use of spreadsheets are included. Topics may also include index numbers.
Three lectures; one term
Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3, and MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U; and one of STATS 1L03 or Grade 12 Mathematics of Data Management U.
Antirequisite: COMMERCE 2G3. ECON 3G03, 4G03, 4X03, HTH SCI 1F03, 1S01, 3G03, 3J03, 3M03, 4G03, 4X03, 4S03, A SOC SCI 2J03, 3J03, 3S03, 3J03, or if COMMERCE 2G3 is a program requirement.

ECON 2CC3  HEALTH ECONOMICS AND ITS APPLICATION TO HEALTH POLICY
Economic analysis of health and health care, with a special emphasis on policy issues in the Canadian health care system.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: HEALTHST 2C03

Not open to students registered in an Economics program or with credit or registration in ECON 2G03, 2X03 or 3S03.Students excluded from ECON 2CC3 or those wishing to do further work in Health Economics are referred to ECON 2S03.

ECON 2D03  ECONOMIC ISSUES
Applications of economics to important public issues, from a general interest perspective. Since topics vary from year to year, interested students should consult the Economics Department for further details. Students may be involved in academic placements within the community.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

Courses
If no prerequisite is listed, the course is open.

ECON 1B03  INTRODUCTORY MICROECONOMICS
An introduction to the method and theory of microeconomics, and their application to the analysis of contemporary economic problems.
Three lectures; one term
Antirequisite: ECON 1A06

ECON 1BB3 INTRODUCTORY MACROECONOMICS
An introduction to the method and theory of macroeconomics, and their application to the analysis of contemporary economic problems.
Three lectures; one term
Antirequisite: ECON 1A06

ECON 2A03  ECONOMICS OF LABOUR-MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market, discrimination in hiring and promotion; unemployment; job loss and workplace closing; work sharing.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

Cross-list: LABR ST 3A03

Not open to students with credit or registration in ECON 3D03.

ECON 2B03  ANALYSIS OF ECONOMIC DATA
Application of statistical concepts to the analysis of economic data, with attention to Canadian sources. Regression analysis and the use of spreadsheets are included. Topics may also include index numbers.
Three lectures; one term
Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3, and MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U; and one of STATS 1L03 or Grade 12 Mathematics of Data Management U.
Antirequisite: COMMERCE 2G3. ECON 3G03, 4G03, 4X03, HTH SCI 1F03, 1S01, 3G03, 3J03, 3M03, 4G03, 4X03, 4S03, A SOC SCI 2J03, 3J03, 3S03, 3J03, or if COMMERCE 2G3 is a program requirement.

ECON 2CC3  HEALTH ECONOMICS AND ITS APPLICATION TO HEALTH POLICY
Economic analysis of health and health care, with a special emphasis on policy issues in the Canadian health care system.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: HEALTHST 2C03

Not open to students registered in an Economics program or with credit or registration in ECON 2G03, 2X03 or 3S03.Students excluded from ECON 2CC3 or those wishing to do further work in Health Economics are referred to ECON 2S03.

ECON 2D03  ECONOMIC ISSUES
Applications of economics to important public issues, from a general interest perspective. Since topics vary from year to year, interested students should consult the Economics Department for further details. Students may be involved in academic placements within the community.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3
ECON 2G03
INTERMEDIATE MICROECONOMICS I
Elements of production and cost, price and output determination under competitive and non-competitive market structures; the role of taxes and subsidies.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent; and credit or registration in MATH 1M03 or equivalent
Antirequisite: ECON 2X03

ECON 2G53
INTERMEDIATE MICROECONOMICS II
Theory of consumer choice and applications to intertemporal choice and labour supply decisions; theory of exchange, welfare economics and general equilibrium analysis.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03; and MATH 1M03 or equivalent

ECON 2H03
INTERMEDIATE INCOME AND EMPLOYMENT THEORY I
Determinants of national income, employment, the rate of interest and the price level; introduction to the open economy.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent. Students without credit in MATH 1M03 or equivalent are strongly advised to take it concurrently with ECON 2H03.

ECON 2H33
INTERMEDIATE INCOME AND EMPLOYMENT THEORY II
Selected topics from macroeconomics policies, issues in unemployment and inflation in open and closed economies, components of aggregate demand and supply and economic growth.
Three lectures; one term
Prerequisite: ECON 2H03

ECON 2J03
FINANCIAL ECONOMICS
Detailed investigation of the financial sector. Topics include the role of capital markets in facilitating investment and growth, bond markets, stock markets, financial statements and taxation.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3
Not open to students with credit or registration in COMMERCE 2FA3.

ECON 2J23
ENVIRONMENTAL ECONOMICS
Allocation of environmental services: efficiency and market failure; measuring environmental benefits; environmental regulation in Canada and elsewhere: taxes, tradable permits and other instruments; further topics.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03

ECON 2K03
ECONOMIC HISTORY OF CANADA
A survey of the changing structure of the Canadian economy from the colonial period to the present; early significance of primary production for export markets; emerging domestic markets and industrialization; government's role in promoting the development of the national economy.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3

ECON 2L03
PEACE, HUMAN SECURITY AND ECONOMIC DEVELOPMENT
The methods and concepts of economic analysis applied to economic development, human security, human rights and peace and conflict resolution.
Three lectures; one term
Prerequisite: Registration in Level II or above
May not be used to satisfy Economics unit requirements by students in Economics programs or a minor in Economics, but may be used as an elective.

ECON 2N03
PUBLIC POLICY TOWARD BUSINESS
The economic effects of federal competition policy and the regulation of business by all levels of government.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03
Antirequisite: ECON 3N03

ECON 2P03
ECONOMICS OF PROFESSIONAL SPORTS
The application of economic principles to team and individual professional sports. Theory of sports leagues, demand for sports, the market for athletes, broadcasting rights, competition policy issues, the public finance aspects of stadium financing.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03

ECON 2T03
ECONOMICS OF TRADE UNIONISM AND LABOUR
Topics include the economics of the labour market, of trade unionism, of work, the impact of trade unions on the labour market, economic theories of strikes and trade unions and the state.
Three lectures; one term
Prerequisite: ECON 1A06; or ECON 1B03 and 1BB3
Cross-list: LABR ST 3803

ECON 2X03
APPLIED BUSINESS ECONOMICS
The economic analysis of the strategy of managerial decision-making. The role of technology, costs, government intervention and market structure on output and pricing decisions.
Three lectures; one term
Prerequisite: ECON 1A06 or 1B03; and one of Grade 12 Advanced Functions and Introductory Calculus U, MATH 1K03 or equivalent; and credit or registration in MATH 1M03 or equivalent
Antirequisite: ECON 2G03
Not open to students registered in Economics programs.

ECON 3B03
PUBLIC SECTOR ECONOMICS: EXPENDITURES
Theory and practice of public finance. Topics are selected from growth of the public sector, market failure, theory of public goods, incentive mechanisms, logic of group decisions and the political processes, theory of benefit-cost analysis, intergovernmental fiscal relations, government budgeting.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03
Antirequisite: ECON 3C06

ECON 3C03
PUBLIC SECTOR ECONOMICS: TAXATION
Theory and practice of public finance: analysis and comparison of the efficiency, equity and distribution effects of the taxation of income, wealth and expenditure, analysis of social insurance, intergovernmental fiscal relations.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03

ECON 3D03
LABOUR ECONOMICS
Introduction to the economics of the labour market, demand for labour by the firm and industry; supply of labour by the individual; investment in human capital.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03
Not open to students with credit or registration in ECON 2A03.

ECON 3F03
METHODS OF INQUIRY IN ECONOMICS
This course develops skills for investigating a research question in economics, through workshops (eg. writing, library, Internet, data), and the subsequent application of the skills to an economic issue.
Three hours; one term
Prerequisite: ECON 2B03 and registration in Level III or Level IV of an Honours Economics program

ECON 3G03
INTRODUCTION TO ADVANCED ECONOMIC THEORY
An introduction to the application of mathematics in economic theory.
Three lectures; one term
Prerequisite: One of Grade 12 Mathematics of Data Management U, MATH 1B03 or STATS 1L03; and MATH 1M03 or equivalent; and a grade of at least C in each of ECON 2G03 (or 2X03), 2G33, 2H03, 2H43
Not open to students with credit or registration in MATH 2A03, 2Q04 or 2X03.

ECON 3H03
INTERNATIONAL MONETARY ECONOMICS
Macroeconomic problems of an open economy with special reference to Canada; the international financial system and proposals for its reform.
Three hours (lectures and seminars); one term
Prerequisite: ECON 2H03

ECON 3H10
INTERNATIONAL TRADE
Real theory of international trade; interregional and international specialization; effect of commercial and industrial policies.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03

ECON 3I03
ECONOMIC HISTORY OF THE UNITED STATES
Economic analysis of the development of the U.S. economy. Topics include the colonial economy, slavery, transportation, income distribution, foreign trade, technical and institutional change and the Great Depression.
Three lectures; one term
Prerequisite: ECON 2G03 or 2X03. ECON 2H03 is recommended
An introduction to the theory of games, including strategic, extensive analysis.

Three lectures; one term

and asset market analysis.

Three lectures; one term

Antirequisite: ECON

and supply, money and inflation, rational expectations, monetary policy and evolutionary biology are discussed.

Prerequisite: ECON

Antirequisite: ECON

National pension and health plans and the microeconomics of retirement

Prerequisite: ECON

Analysis of allocation of resources in health care. Topics include market for health care, insurance, biomedical research, technology assessment, organization and public policy.

Three lectures; one term

Prerequisite: One of ECON 2CC3, 2G03, 2X03, HEALTHST 2C03, ECON 2B03 or another course in statistics is recommended.

ECON 4A03 HONOURS SEMINAR IN ECONOMICS

Students prepare, present and discuss papers under supervision of a faculty member. Several sections will normally be offered. Topics for each section will be announced in January.

Three hours (seminars); one term

Prerequisite: ECON 2GG3, 2H03, 3F03; and ECON 3U03 or 3Q03; and registration in an Honours Economics program

ECON 4B03 SELECTED TOPICS

Topics will vary from year to year depending on student interests and faculty availability. Students should consult the Department on topics to be offered.

Three hours; one term

Prerequisite: Permission of the Department

ECON 4G03 ECONOMETRICS II

Development of regression models appropriate to economics. Illustrations from applied micro- and macroeconomics.

Three lectures; one term

Prerequisite: ECON 2G03 or 2X03; and ECON 2H03; and at least C- in ECON 3006 or 3U03 or an average of 4.0 in both STATS 2D03 and 2B03 (or 2M03)

ECON 4M08 DIRECTED RESEARCH I

A reading and research program supervised by a Department member. A major paper is required. Interested students should consult the Department concerning admission.

Prerequisite: Permission of the Department

ECON 4N03 DIRECTED RESEARCH II

As per ECON 4M06.

Prerequisite: Permission of the Department

ECON 4T03 ADVANCED ECONOMIC THEORY I

Mathematically oriented approaches to the analysis of the behaviour of individual consumers, workers and firms.

Three lectures; one term

Prerequisite: A grade of at least C- in one of ECON 3G03, MATH 2Q04, 2X03 (or 2A03); and a grade of at least C in each of ECON 2G03 (or 2X03), 2GG3, 2H03, 2HH3

Antirequisite: ECON 3A03

ECON 4T13 ADVANCED ECONOMIC THEORY II

Analysis of dynamic macroeconomic models including models of endogenous growth and other selected topics.

Three lectures; one term

Prerequisite: A grade of at least C- in one of ECON 3G03, MATH 2Q04, 2X03 (or 2A03); and a grade of at least C in each of ECON 2G03 (or 2X03), 2GG3, 2H03, 2HH3

Antirequisite: ECON 3AA3

ELECTRICAL AND COMPUTER ENGINEERING

WEB ADDRESS: http://www.ece.mcmaster.ca

Information Technology Building, Room A111

Ext. 24347

Faculty as of January 15, 2007

Chair

K. Max Wong

Associate Chair (Undergraduate Programs)

James P. Reilly

Associate Chair (Graduate Studies)

Thia Kirubarajan

Distinguished University Professor

Simon Haykin/B.Sc., Ph.D., D.Sc. (Birmingham), F.R.S.C., F.I.E.E.

Professors


M. Jamal Deen/B.Sc. (Guelph), M.S., Ph.D. (Case Western Reserve), F.I.E.E., F.E.I.C., F.R.S.C., Canada Research Chair in Information Technology

Wei-Ping Huang/B.Sc. (Shandong), M.S. (Science and Technology of China), Ph.D. (M.I.T.)
COMP ENG 3SK3 COMPUTER-AIDED ENGINEERING
Numerical analysis; linear and nonlinear systems; least squares and QR factorization; optimization; numerical integration and differentiation; sensitivity analysis; finite differences and finite elements; engineering applications.
Three lectures, one tutorial; second term.
Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and MATH 2P04.
Antirequisite: COMP ENG 3SK4, SFWR ENG 3X03.

COMP ENG 4DK4 COMPUTER COMMUNICATION NETWORKS
Introduction to switching and communication networks; packet switching; shared media access and LANs; error control; network layer operation and the Internet; ISDN; wireless networks; performance and simulation.
Three lectures, one tutorial, one lab every other week; first term.
Prerequisite: ELEC ENG 3TQ4.

COMP ENG 4DM4 COMPUTER ARCHITECTURE
Overview of CISC/RISC microprocessors; performance metrics; instruction set design; processor and memory acceleration techniques; pipelining, scheduling; instruction level parallelism; memory hierarchies; multiprocessor structures; storage systems; interconnection networks.
Three lectures, one tutorial, one lab every other week; first term.
Prerequisite: COMP ENG 3DJ4 or 3DR4.
Antirequisite: SFWR ENG 3G03, 3GA3.

COMP ENG 4DN4 ADVANCED INTERNET COMMUNICATIONS
Advanced internet protocols; routing, security, encryption; quality of service, ATM, RSVP, video and voice over IP; terminals, gateways and gatekeepers; wireless networks; WDM systems; optical crossconnects.
Three lectures, one tutorial, one lab every other week; second term.
Prerequisite: COMP ENG 4DK4.

COMP ENG 4DS4 EMBEDDED SYSTEMS
Embedded processor architectures and SOC organization; EDA tools for hardware/software co-design; co-verification and testability; interfacing; co-processors, soft processors and ASIP design; real-time systems; applications.
Three lectures, one tutorial, one lab every other week; second term.
Prerequisite: COMP ENG 3DQ4.
Enrolment may be limited for Electrical and Biomedical engineering.

COMP ENG 4EK3 MICROELECTRONICS
CMOS and MOSFET integrated circuit design; fabrication and layout; simulation; digital and analog circuit building; computer-aided design and analysis; testing and verification.
Two lectures, one tutorial, one lab every other week; first term.
Prerequisite: ELEC ENG 3EJ4.
Antirequisite: ELEC ENG 4EK3.

COMP ENG 4O15 ENGINEERING DESIGN
The design process; establishing objectives; preliminary design; planning: scheduling; electronics: modeling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.
Lectures, tutorials, one capstone project; first term.
Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering program.
Antirequisite: COMP ENG 4014, ELEC ENG 4014, 4015, 4B14, 4B15.

COMP ENG 4OJ3 RESEARCH PROJECT
A research-oriented project under the direct supervision of a faculty member to foster initiative and independent creativity while working on an advanced topic.
Both terms.
Prerequisite: Prior arrangement with an Electrical and Computer Engineering faculty member, inclusion on the Dean's Honour List, registration in Level IV or V or permission of the instructor.
Antirequisite: ELEC ENG 4OJ3.

COMP ENG 4TL4 DIGITAL SIGNAL PROCESSING
Classical filter theory; DFT and FFT; FIR and IIR digital filters; effects of finite precision; implementation of DSP systems; adaptive filtering; spectral analysis, signal compression.
Three lectures, one tutorial, one lab every other week; first term.
Prerequisite: ELEC ENG 3TP4, 3TQ4.
Corequisite: ELEC ENG 3TQ4 (For students registered in Electrical and Biomedical Engineering only).
Antirequisite: ELEC ENG 4TL4.

COMP ENG 4TN3 IMAGE PROCESSING
Digital image formation and representation; filtering, enhancement and restoration; edge detection; discrete image transforms; encoding and compression; segmentation; recognition and interpretation; 3D imagery; applications.
Two lectures, one tutorial, one lab every other week; second term.
Prerequisite: ELEC ENG 3TP4, 3TQ4.
Antirequisite: ELEC ENG 4BF3.

ELECTRICAL AND COMPUTER ENGINEERING

Department Note:
All students in the Electrical Engineering program initially follow a common curriculum consisting of a combination of Electrical Engineering and Computer Engineering courses. In their senior year, students are given the opportunity to customize their program by selecting from a wide range of technical electives.
All Electrical and Computer Engineering courses are open to students registered in any Electrical or Computer Engineering program or the Electrical and Biomedical Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for students from other Engineering departments or faculties.

Courses

ELEC ENG 2C16 INTRODUCTION TO ELECTRICAL ENGINEERING
Current, potential difference; Kirchhoff's laws; Ohm's Law; circuit elements; mesh/nodal analysis of electrical circuits; first and second order circuits; complex arithmetic; phasors, impedance and admittance; AC power; operational amplifiers.
Three lectures, one tutorial, one lab every week; first term.
Prerequisite: Registration in a Computer Engineering or Electrical Engineering program.
Antirequisite: ELEC ENG 2C14.

ELEC ENG 2CJ4 CIRCUITS AND SYSTEMS
Laplace transforms with applications; responses of linear systems; coupled circuits; power relationships; dependent sources; magnetic and nonlinear circuits.
Three lectures, one tutorial (two hours); second term.
Prerequisite: ELEC ENG 2C14 or 2C15.
Antirequisite: ELEC ENG 2CJ5.

ELEC ENG 2E15 ELECTRONIC DEVICES AND CIRCUITS I
Semiconductor devices and electronic circuits; electrical characteristics; principles of operation, circuit models of diodes, field-effect and bipolar transistors, and operational amplifiers; analysis and design of basic application circuits.
Three lectures, one tutorial, one lab every week; second term.
Prerequisite: ELEC ENG 2C14 or 2C15.
Antirequisite: ELEC ENG 2E15.

ELEC ENG 2F13 ELECTROMAGNETICS I
Transmission lines, electrostatics, current and conductors, the steady magnetic field. Faraday's law.
Three lectures, one tutorial; second term.
Prerequisite: ELEC ENG 2C14 or 2C15; and PHYSICS 1E03.
Antirequisite: ELEC ENG 3F14.

ELEC ENG 3B13 STRUCTURE OF BIOLOGICAL MATERIALS
Structure of proteins, nucleic acids, connective tissue and bone from molecular to microscopic levels; principles and applications of instruments for imaging identification and measurement of biological materials.
Three lectures, one tutorial; first term.
Prerequisite: Registration in Level III Electrical and Biomedical Engineering.

ELEC ENG 3B13 CELLULAR BIOELECTRICITY
Generation and transmission of bioelectricity in excitable cells; ionic transport in cellular membranes; propagation of electricity within and between cells, cardiac and neural physiology; measurement of extracellular fields; electrical stimulation of excitable cells.
Three lectures, one tutorial; second term.
Prerequisite: Registration in Level III Electrical and Biomedical Engineering.

ELEC ENG 3EJ4 ELECTRONIC DEVICES AND CIRCUITS II
Analog and digital electronics; operational amplifier circuits; multistage amplifiers; oscillators; analog and digital integrated circuits; data converters; amplifier frequency response; feedback and stability; computer aids to analysis and design.
Three lectures, one tutorial, one lab every other week; second term.
Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and ELEC ENG 2EH4 or 2E15.
ELEC ENG 3F4K ELECTROMAGNETICS II
Electrostatics, magnetostatics, time-varying fields, uniform plane waves, plane wave reflection and dispersion, guided waves, radiation.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 2PH3
Antirequisite: ELEC ENG 3F4I

ELEC ENG 3P4 POWER DEVICES AND SYSTEMS
Power circuits; transformers; magnetic circuits; three phase connections; single phase motors; polyphase machines; synchronous generators and motors, induction motors; dc motors; design of industrial systems.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 2CJ4 or 2CJ5; and ELEC ENG 2C14 or 2C15

ELEC ENG 3T4 SIGNALS AND SYSTEMS
Time and frequency domain descriptions of continuous-time and discrete-time signals and linear systems; including convolution; Fourier transforms, impulse response and frequency response; applications to control and communication systems.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 2CJ4 or 2CJ5
Antirequisite: MECH ENG 4R03

ELEC ENG 3TQ4 PROBABILITY AND RANDOM PROCESSES
Probability theory, random variables, expectations; random processes, autocorrelation, spectral densities; filtering of random processes; noise in communication systems.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: MATH 2P04

ELEC ENG 3TR4 COMMUNICATION SYSTEMS
Review of continuous-time signals and systems; analysis and implementation of amplitude modulation (DSB-SC, SSB), phase and frequency modulation schemes; digital modulation; noise performance.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3TTP4, 3TQ4; or ENG PHYS 3W04

ELEC ENG 4BC3 MODELLING OF BIOLOGICAL SYSTEMS
Introduction to mathematical and engineering methods for describing and predicting the behaviour of biological systems; including sensory receptors, neuromuscular and biomechanical systems; statistical models of biological function; kinetic models of biological thermodynamics.
Three lectures, one tutorial; first term
Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

ELEC ENG 4BD4 BIOMEDICAL INSTRUMENTATION
Generation and nature of bioelectric potentials; electrodes and other transducers; principles of instrumentation; electrical safety; neuromuscular and cardiovascular instrumentation; ultrasonics and other medical imaging.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: One of ELEC ENG 3EJ4, ENGINEER 3N03 or PHYSICS 3B06
Antirequisite: ELEC ENG 4EL3

ELEC ENG 4BE4 MEDICAL ROBOTICS
Fundamentals of robotics and telerobotics; feedback from the environment using sensors and machine vision; application of robotics to medicine and surgery.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

ELEC ENG 4BF3 MEDICAL IMAGE PROCESSING
Physical principles of medical image formation; imaging technology for X-ray, ultrasound, magnetic resonance; image quality descriptions and enhancement; 3D imagery.
Two lectures, one tutorial; one lab every other week; second term
Prerequisite: ELEC ENG 3TQ4
Antirequisite: COMP ENG 47N3

ELEC ENG 4BI5 BIOMEDICAL DESIGN PROJECT
The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modelling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.
Three lectures, two tutorials, one capstone project; first term
Prerequisite: Registration in Level IV Electrical and Biomedical Engineering

ELEC ENG 4CL4 CONTROL SYSTEM DESIGN
Design of linear control systems using classical and state-space techniques; performance limitation; sampled-data control; nonlinear systems; multi-input multi-output control systems.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3TP4

ELEC ENG 4EM3 PHOTONIC DEVICES AND SYSTEMS
Two lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3EJ4

ELEC ENG 4FJ4 MICROWAVE ENGINEERING
Principles of transmission lines, impedance matching and Smith charts; scattering parameters; waveguides and resonant cavities; stripline and microstrip; antenna radiation; radio-wave propagation.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3F4I or 3F4K

ELEC ENG 4OD5 ENGINEERING DESIGN
The design process; establishing objectives; preliminary design; planning; scheduling; decision matrices; modelling tools; economic impact; optimization methods; reliability; safety; a term project composed of small teams of students including an oral presentation and written report.
Lectures, tutorials, one capstone project; second term
Prerequisite: Registration in Level IV or V of any Electrical or Computer Engineering program
Antirequisite: COMP ENG 4O14, 4O15, ELEC ENG 4B14, 4B15, 4O14

ELEC ENG 4OJ3 RESEARCH PROJECT
A research-oriented project under the direction of a faculty member to foster initiative and independent creativity while working on an advanced topic.
Both terms
Prerequisite: Prior arrangement with an Electrical and Computer Engineering faculty member, inclusion on the Dean's Honour List, registration in Level IV or V or permission of the instructor
Antirequisite: COMP ENG 4OJ3

ELEC ENG 4PK4 POWER ELECTRONICS
Power circuits with switches; basic rectifier circuits; commutation; choppers; inverters; harmonic suppression techniques; generation and control of rotating fields; variable speed drives; system design.
Three lectures, one tutorial; one lab every other week; second term
Prerequisite: ELEC ENG 3EJ4, 3TQ4

ELEC ENG 4PL4 ENERGY SYSTEMS AND MANAGEMENT
Elements of generation, transmission, and distribution systems; system-wide energy flow and control; modelling and simulation; economics and management; fault prediction and management.
Three lectures, one tutorial, one lab every other week; first term
Prerequisite: ELEC ENG 3P4

ELEC ENG 4TK4 DIGITAL COMMUNICATIONS SYSTEMS
Digital modulation systems, intersymbol interference, equalization, synchronization: ASK, FSK, PSK, MSK, optimal receiver, noncoherent detection; introduction to information theory; entropy, source coding, mutual information, channel capacity.
Three lectures, one tutorial, one lab every other week; second term
Prerequisite: ELEC ENG 3TR4

ENGINEERING (GENERAL)

WEB ADDRESS: http://www.eng.mcmaster.ca/

Note:
Enrolment in these courses is limited to students registered in an Engineering program.

Courses
If no prerequisite is listed, the course is open.

ENGINEER 1A00 SAFETY TRAINING
Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Workplace Hazardous Materials Information System (WHMIS).
One hour, first week; first term
Prerequisite: Registration in any Engineering program
Antirequisite: ENG TECH 1A00, NURSING 1A00, SCIENCE 1A00
This course must be successfully completed before registering in Level II Engineering.
ENGINEER 1C03 ENGINEERING DESIGN AND GRAPHICS
Graphical visualization and communication; technical sketching, 2D and 3D computer-aided design; use of solid modelling software.
One lecture, one tutorial (two hours), one lab (three hours); first or second term
Prerequisite: Registration in any Engineering program
Antirequisite: ENGINEER 1C04

ENGINEER 1D04 ENGINEERING COMPUTATION
Development and analysis of simple algorithms. Implementation of algorithms in computer programming language. Design and testing of computer programs.
One lecture, one tutorial (three hours), one lab (two hours); first or second term
Prerequisite: Registration in any Engineering program
Antirequisite: COMP SCI 1MA3, 1MC3, 1SA3, 1TA3

ENGINEER 1E00 INTRODUCTION TO THE ENGINEERING CO-OP PROGRAM
Orientation to Engineering Co-op programs, self-assessment exercises, job and employer research, cover letter and resume writing, interviewing skills and work place professionalism.
Five sessions; first or second term
Prerequisite: Registration in a Co-op program in the Faculty of Engineering
Not open to students in their final level.

ENGINEER 1P03 INTRODUCTION TO PROFESSIONAL ENGINEERING
Introduction to professional engineering including ethics, health and safety, roles and responsibilities to society, engineering communication; design skills; group design projects.
One lecture first term; one lecture, one tutorial (two hours) second term; both terms
Prerequisite: Registration in any Engineering program

ENGINEER 2C03 ELECTRICITY, THERMOPHYSICS AND ENERGY
An exposure of electrical and thermophysics fundamentals having civil engineering applications. Topics: electrostatics, electric currents, circuits and transients, electrical power engineering, energy efficiency, heat transfer mechanisms.
Two lectures, one tutorial (two hours); first term
Prerequisite: PHYSICS 1E03 and registration in MATH 2M06 (or 2M03 and 2MM3);

ENGINEER 2E00 FOUR MONTH CO-OP EXPERIENCE I
Minimum of 15 weeks of full time employment in a professional environment.
Credit may also be earned through successful completion of one UROP - Undergraduate Research Opportunities Program (Level I and II students only).
Prerequisite: ENGINEER 1E00
Not open to students in their final level.

ENGINEER 2H03 THERMODYNAMICS
An introduction to thermodynamics and its statistical basis at the microscopic level, with applications to problems originating in a modern laboratory or engineering environment.
Three lectures; second term
Prerequisite: Registration in Level II or above of any Engineering program except Engineering Physics or Photonics Engineering
Antirequisite: ENGINEER 2V04, ENG PHYS 2H04, MECH ENG 2W04, PHYSICS 2H04

ENGINEER 2M03 ELECTRICAL CIRCUITS AND POWER
Fundamentals of electromechanical energy conversion. Motors and generators, transformers, single and polyphase power circuits, synchronous and induction machines, power measurements.
Two lectures and one lab or tutorial; first or second term
Prerequisite: PHYSICS 1E03; and registration in either MATH 2M06 (or 2M03 and 2MM3) or both MATH 2P04 and 2Q04
Antirequisite: ENGINEER 3M03

ENGINEER 2P04 ENGINEERING MECHANICS 'A'
Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principal stresses; deflection of beams; statical indeterminacy.
Three lectures, plus one unit comprising tutorials or lectures devoted to applications, at the discretion of the instructor; first term
Prerequisite: PHYSICS 1D03
Antirequisite: MECH ENG 2P04

ENGINEER 3E00 FOUR MONTH CO-OP EXPERIENCE II
Minimum of 15 weeks of full time employment in a professional environment.
Credit may also be earned through successful completion of one UROP - Undergraduate Research Opportunities Program (Level I and II students only).
Prerequisite: ENGINEER 2E00
Not open to students in their final level.

ENGINEER 3K03 INTRODUCTION TO THERMODYNAMICS AND HEAT TRANSFER
Fundamentals of thermodynamics. Principles of conductive, radiant and convective heat transfer. Examples from chemical, mechanical and electrical systems.
Three lectures; first term
Prerequisite: Completion of Level II of any Software Engineering program

ENGINEER 3N03 ELECTRONICS AND INSTRUMENTATION
Two lectures, one tutorial (two hours); one term
Prerequisite: Registration in an Engineering and International Studies program

ENGINEER 4A03 ENGINEERING AND SOCIAL RESPONSIBILITY
The historical development of the engineering profession's concern for social responsibility. Engineering as a cultural activity. The scope and limitations of engineering ethics. The role of the engineering profession in the social control of technological change.
Two lectures, one tutorial; second term
Prerequisite: Registration in Level III or above of any Engineering program except Engineering and Society
Antirequisite: ENGINEER 4H03, ENG PHYS 2S03, 4C03

ENGINEER 4B03 ENGINEERING ECONOMICS
Three hours (lectures, applications, discussions); second term
Prerequisite: Registration in Level IV or V of an Engineering program
Antirequisite: CHEM ENG 4N04, ENGINEER 2B03
Not open to students registered in an Engineering and Management program.

ENGINEER 4E00 EIGHT MONTH CO-OP EXPERIENCE
Eight months of full time employment in a professional environment.
Prerequisite: ENGINEER 1E00
Not open to students in their final level.

ENGINEER 4E06 TWELVE MONTH CO-OP EXPERIENCE
Twelve months of full time employment in a professional environment.
Prerequisite: ENGINEER 1E00
Not open to students in their final level.

ENGINEER 4E09 SIXTEEN MONTH CO-OP EXPERIENCE
Sixteen months of full time employment in a professional environment.
Prerequisite: ENGINEER 1E00
Not open to students in their final level.

ENGINEER 4E00 FOUR MONTH CO-OP EXPERIENCE III
Minimum of 15 weeks of full time employment in a professional environment.
Prerequisite: ENGINEER 3E00
Not open to students in their final level.

ENGINEER 4H03 ENGINEERING: ITS HISTORY AND CONTEMPORARY CONTEXT
Three lectures; first term
Prerequisite: Registration in Level III, IV, or V of any Engineering program except Engineering and Society
Antirequisite: ENGINEER 4A03, ENG PHYS 2S03, 4C03
ENGINEERING AND MANAGEMENT

ENGIN MGT 5B03 ENGINEERING AND MANAGEMENT PROJECTS
Capstone course: Students work in multidisciplinary teams to solve an integrated engineering and business problem in an organization. Project management skills are taught and project management software is used. One lecture, two tutorials (two hours); one term
Prerequisite: ENGN MGT 4A01 and registration in any Engineering and Management program

ENGINEERING AND SOCIETY

WEB ADDRESS: http://www.eng.mcmaster.ca/engandsoc/
John Hodgins Engineering Building, Room A214-D
Ext. 27679

The Engineering and Society Programs are described in the Faculty of Engineering section in this Calendar. These programs lead to the B.Eng. Society degree.

Program Director
B. Baetz (Civil Engineering) B.A.Sc., M.A.Sc. (Toronto), Ph.D. (Duke), P.Eng.
Operating Committee, as of July 1, 2006:
Chair
B. Baetz (Civil Engineering)

M. Elbestawi (Dean of Engineering)
P.M. Smith (Associate Dean of Engineering)
I. Bruce (Electrical and Computer Engineering)
D. Conochie (Materials Science and Engineering)
K. Garay (Women's Studies)
A. Kilai (Engineering Physics) - Term 2
A. Knights (Engineering Physics) - Term 1
J. Main (Civil Engineering Structural/Geotechnical and Society, Student)
J. Peng (Computing and Software)
K. Sharma (Civil Engineering Structural/Geotechnical and Society, Student)
H. Sheardown (Chemical Engineering)
E. Sorensen (Engineering Physics and Society, Student)
B. Statham (Engineering Physics and Society, Student)
S. Veldhuis (Mechanical Engineering)
J. Wagenar (Engineering Physics and Society, Student)

Courses
If no prerequisite is listed, the course is open.

ENGSOC 2X03 INQUIRY IN AN ENGINEERING CONTEXT I
Inquiry is a non-disciplinary approach to the study of issues of public concern. In terms of the design process, inquiry focuses on the problem definition stage, in which formulating questions, researching underlying issues, and analyzing opposing arguments are essential. The first course involves teaching how to use the university and community resources in research, how to write a research paper, and how to express ideas orally. The theme for 2007/2008 is sustainable society.
Three hours (lectures, discussion, group work); second term
Prerequisite: Registration in any Engineering and Society program

ENGSOC 2Y03 CASE STUDIES IN HISTORY AND TECHNOLOGY
History and philosophy of technology, from antiquity to modern times, with a special emphasis on the cultural aspects of technology, are addressed on a case study basis.
Three hours (lectures, discussion, group work); first term
Prerequisite: Registration in any Engineering and Society program

ENGSOC 3X03 INQUIRY IN AN ENGINEERING CONTEXT II
This Inquiry course builds on the skills developed in previous courses, focusing on a specific issue related to the role of engineering and technology in society. The course is devoted to the study of one topic such as: automation and employment, technology and the quality of life, the deteriorating environment, or the information society.
Three hours (lectures, discussion, group presentations); first term
Prerequisite: ENGSOC 2X03

ENGSOC 3Y03 THE CULTURE OF TECHNOLOGY
A study of the nature and structure of society, the nature of culture, and the role and place of different groups, including engineers, in a culture dominated by technology.
Three hours (lectures, discussion, group work, seminars); first term
Prerequisite: ENGSOC 2Y03
ENGSOCTY 3203 PREVENTIVE ENGINEERING: ENVIRONMENTAL PERSPECTIVES
The basic concepts of preventive engineering are studied and applied to specific case studies. The focus is on sustainability and the natural environment.
Three hours (lectures, discussion, group projects); second term
Prerequisite: Registration in Level III or IV of an Engineering and Society program or the Honours Environmental Science (B.Sc.) Program

ENGSOCTY 4X03 INQUIRY IN AN ENGINEERING CONTEXT III
Under the supervision of a faculty member, students write an inquiry paper and present their findings orally. Topics for inquiry must bear on the relation of technology to society and have implications for the practicing engineer.
Prerequisite: ENGSOCTY 3X03

ENGSOCTY 4203 THE SOCIAL CONTROL OF TECHNOLOGY
The dominant mechanisms of the social control of technology are studied, with a specific emphasis on the role of the engineering profession. Includes an examination of assessment methods and the role of ethics as one approach to social responsibility in engineering.
Three hours (lectures, discussion, group projects, seminars); second term
Prerequisite: Registration in Level V of an Engineering and Society program

ENGINEERING PHYSICS

WEB ADDRESS: http://engphys.mcmaster.ca/
John Hodgins Engineering Building, Room A315
Ext. 24545

Faculty as of January 15, 2007

Chair
Paul E. Jessop

Professors
Alexander A. Bereznii/B.Sc., M.Sc., Ph.D. (Leningrad State)
Daniel T. Cassidy/B.Eng. (McMaster), M.Sc. (Queen's), Ph.D. (McMaster), P.Eng.
Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
Adrian H. Kitai/B.Eng. (McMaster), Ph.D. (Cornell), P.Eng.
Rafael N. Kleiman/S.B (MIT), Ph.D. (Cornell)
John C. Luxat/B.Sc. (Cape Town), Ph.D. (Windsor), P.Eng.
Peter Maschini/M.Eng., Ph.D. (Technical University of Graz), P.Eng.
David A. Thompson/B.Sc., Ph.D. (Reading), C.Eng.
Chang Q. Xu/B.Sc., M.Sc. (University of Science and Technology of China), D.Eng. (Tokyo)

Adjunct Professors
Denis J. Corr/B.Sc., Ph.D. (Queen's, Belfast)
David P. Jackson/B.Sc., M.A., M.Sc., Ph.D. (Toronto)
Nikola K. Popov/B.Eng. (Kiril and Metodii), M.Sc. (Belgrade), Ph.D. (Zagreb)
Victor G. Snell/B.Sc. (Manitoba), M.Sc., Ph.D. (Toronto)

Associate Professor
David R. Novog/B.Sc., Eng. (Mantioba), M.Eng., Ph.D. (McMaster)

Adjunct Associate Professor
Glenn D. Harvel/B.Eng., M.Eng., Ph.D. (McMaster)

Assistant Professors
Andrew P. Knights/B.Sc. (DeMontfort), Ph.D. (East Anglia)
Ray R. LaPierre/B.Sc. (Dalhousie), M.Eng., Ph.D. (McMaster)
Qlynn Fang/B.Sc. (Nankai), M.S., Ph.D. (East Carolina)

Program Note:

Fred M. Hoppel (Mathematics and Statistics) B.Sc. (Toronto), M.Sc. (Weizmann Institute of Science), M.A., Ph.D. (Princeton)
Jan Dirk Huizinga (Medicine) B.Sc., M.Sc., Ph.D. (Groningen)
Peter Kruse (Chemistry) Dipl. Chem. (FSU-Jena), Ph.D. (California-San Diego)
Marillyn F. Lightstone (Mechanical Engineering) B.A.Sc. (Queen's), M.A.Sc., Ph.D. (Waterloo), P.Eng.
Rafik O. Loufty (Chemical Engineering) B.Sc., M.Sc. (Ain Shams), Ph.D. (Western Ontario), M.B.A. (Toronto)
Skipper Pochimian (Computing and Software) B.S. (Niagara), B.Sc. (Brook), M.Sc., Ph.D. (McMaster), P.Eng.
Kalaiselvi Saravanamuttu (Chemistry) B.Sc., Ph.D. (McGill)

Department Note:
All Engineering Physics courses are open to students registered in Engineering Physics unless otherwise stated. Prior permission of the Department is necessary for students from other engineering departments and other faculties.

Courses

If no prerequisite is listed, the course is open.

ENG PHYS 2A04 ELECTRICITY AND MAGNETISM
Development of electromagnetism - theory, electrostatics, charge, Gauss's Law, electric energy, DC circuits, magnetic fields, Ampère's law, AC circuits, Derivation of Maxwell's equations via vector calculus. Three lectures, one tutorial, one lab (three hours), every other week; first term
Prerequisite: PHYSICS 1E03 and credit or registration in MATH 2P04
Antirequisite: ENG PHYS 2A03

ENG PHYS 2E04 ANALOG AND DIGITAL CIRCUITS
Design and analysis of analog and digital electrical circuits - component analysis, circuit analysis and theorems, binary numbers, Boolean analysis and digital circuit design. Three lectures, one lab (three hours); second term
Prerequisite: ENG PHYS 2A03 or 2A04

ENG PHYS 2H04 THERMODYNAMICS
An introduction to thermodynamics and its statistical basis at the microscopic level, with applications to problems originating in a modern laboratory or engineering environment.
Three lectures, one tutorial; one lab every other week; second term
Prerequisite: Registration in Level II Engineering Physics Cross-list: PHYSICS 2H04
Antirequisite: ENGINEER 2H03, 2V04, MATLS 2B03

ENG PHYS 2QM3 INTRODUCTION TO QUANTUM MECHANICS
Wave-particle duality, uncertainty principle, Hydrogen atom, Schrödinger Equation for ID systems, barriers and tunnelling, probability, properties of insulators, semiconductors and metals. Examples from experiments.
Three lectures, one tutorial; second term
Prerequisite: Registration in an Engineering Physics or Materials Engineering program

ENG PHYS 2S03 ENGINEERING PHYSICS AND EMERGING TECHNOLOGIES
An inquiry-based course on the societal impact of emerging technologies associated with Engineering Physics. Topics include alternative energy sources, nuclear power, new information technologies, and new developments in biomedical engineering.
Two lectures first term, one lecture second term; both terms
Prerequisite: Registration in an Engineering Physics program Antirequisite: ENGINEER 4A03, 4H03

ENG PHYS 3A03 APPLICATIONS OF PHOTONICS
This course will provide an introduction to industrial, commercial and medical applications of photonics. Will include lecture-based instruction and design projects.
Two lectures, one lab; first term
Prerequisite: Credit or registration in ENG PHYS 3E03

ENG PHYS 3S03 PRINCIPLES OF NUCLEAR ENGINEERING
Introduction to fission and fusion energy systems. Energy levels of nuclear reactions, interactions of radiation with matter, radioactivity, design and operating principles of fission and fusion reactors.
Three lectures, two labs (three hours each); second term
Prerequisite: Registration in Level III or above of any program in Engineering or Physics
ENG PHYS 3E03 | FUNDAMENTALS OF PHYSICAL OPTICS
Refraction and reflection; geometrical optics; interference and diffraction; optical constants of media; optical-design software; introduction to design of optical systems. Two lectures, one tutorial, one lab (three hours every other week); first term
Prerequisite: ENG PHYS 2A03 or 2A04; and ENG PHYS 2E04

ENG PHYS 3E53 | INTRODUCTION TO ENERGY SYSTEMS
A survey course on energy systems with emphasis on the analytic tools needed to evaluate them in terms of performance, resources and environmental sustainability, costs, and other relevant factors over their life cycles. Three lectures, first term
Prerequisite: Registration in an Engineering Physics program

ENG PHYS 3F03 | ADVANCED APPLICATIONS OF QUANTUM MECHANICS
Application of quantum mechanics to the electronic, optical and mechanical behaviour of materials. Three lectures, first term
Prerequisite: ENG PHYS 2QM3 or PHYSICS 3M03
Antirequisite: ENG PHYS 3F04

ENG PHYS 3G03 | OPTICAL INSTRUMENTATION
Design of optical equipment (including reflective and refractive optical systems, interferometers and spectrometers). Optical sources and measurement devices. Detectors (photographic, photoelectric, etc.), including use in the infrared and ultraviolet, and at low intensity levels. Three lectures; second term
Prerequisite: ENG PHYS 3E03 or PHYSICS 3N03
Antirequisite: ENG PHYS 4G03; PHOTONIC 4G03

ENG PHYS 3M03 | INTRODUCTION TO MICROSYS TEM DEVICES
New materials, phenomena, and platforms for the design, fabrication, and application of modern and emerging technologies. Included MicroElectroMechanicalSystems (MEMS), microfluidic, electronic, and photonic devices. Three lectures; first term
Prerequisite: Registration in an Engineering Physics program

ENG PHYS 3P04 | INTRODUCTION TO FLUID MECHANICS AND HEAT TRANSFER
Fluid properties and statics are introduced. Basic equations of continuity, energy and momentum for internal and external flows are discussed. Similitude, dimensional analysis, measuring devices, fluid machinery and electromagnetic flow. Conduction and convection heat transfer. Two lectures, one tutorial, one lab (three hours every other week); first term
Prerequisite: Credit or registration in MATH 2M06 or 2M03; or MATH 2P04 and 2Q04
Antirequisite: ENG PHYS 3P03

ENG PHYS 3PN3 | SEMICONDUCTOR JUNCTION DEVICES
Electron-transport properties of semiconductors; non-equilibrium carrier conditions; steady state and non-steady state; p-n junctions; Schottky diodes, bipolar junction transistors. Detailed coverage of a range of diodes including photodiodes, solar cells, light emitting diodes, zener diodes, and avalanche diodes. Three lectures, four labs (three hours each); second term
Prerequisite: ENG PHYS 3P04 or credit or registration in ENG PHYS 3F03
Antirequisite: ENG PHYS 3PN3, 4E03

ENG PHYS 3PN4 | ACQUISITION AND ANALYSIS OF EXPERIMENTAL INFORMATION
A systems approach to measurement in which synthesis of topics such as Fourier transforms, signal processing and enhancement, data reduction, modelling and simulation is undertaken. Two lectures; both terms
Prerequisite: Registration in Level III or above of any Engineering or Science program

ENG PHYS 3Q03 | HUMAN PHYSIOLOGY
Basic introduction and working knowledge of the human body. Includes study of the cellular level of organization. Three lectures; second term
Prerequisite: Completion of a minimum of 30 units above Level I in any Engineering program
Antirequisite: BIOLOGY 2A03, 3U03, 3U06, 3UU3, 4G06

ENG PHYS 4A06 | DESIGN AND SYNTHESIS PROJECT
Design and synthesis projects supervised by a faculty member in the Department of Engineering Physics. Two labs (three hours); both terms
Prerequisite: Registration in the final level of an Engineering Physics program
Antirequisite: ENG PHYS 4A04

ENG PHYS 4D03 | NUCLEAR REACTOR ANALYSIS
Introduction to nuclear energy; nuclear physics and chain reactions; reactor statics and kinetics; multigroup analysis, core thermal-hydraulics, reactor design. Three lectures (including field trip); first term
Prerequisite: ENG PHYS 3D03

ENG PHYS 4E03 | SPECIAL TOPICS IN ENERGY SYSTEMS
Various topics will be examined and critically evaluated to consolidate the student's knowledge and analytical skills in the area of energy systems. Three lectures; second term
Prerequisite: ENG PHYS 3E03

ENG PHYS 4F03 | ADVANCED SOLID STATE DEVICES
Electronic properties of field effect devices; electronic and optical properties of advanced devices and integrated circuits. Student projects will allow supplemental coverage of devices of particular interest to the class. Three lectures; first term
Prerequisite: Credit or registration in one of ENG PHYS 3PN3, 3PN4 or 4E03

ENG PHYS 4H04 | SPECIAL STUDIES IN ENGINEERING PHYSICS
A special program of studies to be arranged by mutual consent of a professor and the student with approval of the department chair, to carry out experiments and/or theoretical investigations. A written report and oral defence are required. Two tutorials, one lab (three hours); both terms
Prerequisite: Registration in final level of an Engineering Physics program and a CA of at least 9.5

ENG PHYS 4I03 | INTRODUCTION TO BIOPHOTONICS
This is a survey course on basic principles of light interaction with biological systems and specific biomedical applications of photonics. Three lectures; second term
Prerequisite: ENG PHYS 3E03 or PHYSICS 3N03
Antirequisite: PHOTONIC 3E03

ENG PHYS 4K03 | OPTICAL COMMUNICATIONS SYSTEMS
Propagation of light in an optical fiber. Semiconductor lasers and detectors for optical communications. Analogue and digital coding. Signal to noise considerations. System design. Three lectures; first term
Prerequisite: Registration in Level IV or V of any Engineering or Physics program
Antirequisite: PHOTONIC 4K03

ENG PHYS 4L04 | INDUSTRIAL MONITORING AND DETECTION TECHNIQUES
Single and two-phase flow diagnostics and monitoring techniques for industrial and power plant operations, radiation monitoring; pollutant monitoring and analyses; nuclear instrumentation for industrial processes. Two lectures, four labs; both terms
Prerequisite: Registration in Level IV or V of any Engineering Physics program or permission of the instructor
Antirequisite: ENG PHYS 4L03

ENG PHYS 4M04 | ADVANCED MATERIALS AND NEXT-GENERATION DEVICES
This course explores the relationship between material properties and device performance. In particular, the design challenges associated with employing properties such as magneto-resistance, superconductivity, and piezoelectricity in devices will be studied. Two lectures; both terms
Prerequisite: ENG PHYS 3F03 or 3F04; and credit or registration in one of ENG PHYS 3PN3, 3PN4 or 4E03

ENG PHYS 4N03 | ADVANCED NUCLEAR ENGINEERING
Prerequisite: ENG PHYS 3D03

ENG PHYS 4P03 | NUCLEAR POWER PLANT SYSTEMS AND OPERATION
Systems and overall unit operations relevant to nuclear power plants; includes all major reactor and process systems; nuclear power plant simulator; self-study using interactive CD-ROM. One term
Prerequisite: Registration in Level IV or above of any Engineering program
Two lectures; both terms

Prerequisite: ENG PHYS 3E03 or PHYSICS 3N03

Antirequisite: PHOTONIC 4S04

ENG PHYS 4U04 MODERN AND APPLIED PHYSICS LABORATORY

Selected advanced experiments in two areas of applied physics, chosen from among: lasers and optical communications; microelectronic devices; computer systems; nuclear engineering.

Two lectures; both terms

Prerequisite: ENG PHYS 3W04, and PHYSICS 3H06 or both PHYSICS 3B03 and 3S03

ENG PHYS 4203 SEMICONDUCTOR MANUFACTURING TECHNOLOGY

Detailed description of fabrication technologies used in the semiconductor industry, computer modelling of device fabrication; analysis of device performance.

Two classroom-based lectures, one computer cluster-based lecture; second term

Prerequisite: ENG PHYS 3F03 or 3F04

ENGINEERING TECHNOLOGY (GENERAL)

(SEE TECHNOLOGY, ENGINEERING TECHNOLOGY)

ENGLISH AND CULTURAL STUDIES

WEB ADDRESS: http://www.humanities.mcmaster.ca/-english/
Chester New Hall, Room 321 Ext. 24491

Faculty as of January 15, 2007

Chair
Mary O'Conner

Acting Chair (Until June 30, 2007)
Donald Goellnicht

Distinguished University Professor
James King/B.A. (Toronto), M.A., Ph.D. (Princeton), F.R.S.C.

Professors
Joseph Adamson/B.A. (Trent), M.A., Ph.D. (Toronto)
David L. Clark/B.A., M.A., Ph.D. (Western Ontario)
Henry Giroux/B.S. (Maine), M.A. (Appalachian State), D. Arts (Carnegie-Mellon)/Global Television Network Chair in Communications
Donald C. Goellnicht/B.A. (Queen's), M.A., Ph.D. (McMaster)
Ronald Granofsky/B.A. (Trent), M.A. (Canterbury), Ph.D. (Queen's)
Mary E. O'Connor/B.A. (McGill), M.A., Ph.D. (Toronto)
Helen M. Ostovich/B.A., M.A., Ph.D. (Toronto)
Mary Silcox/B.A. (Western Ontario), M.A., Ph.D. (Queen's)
Peter Walsley/B.A., M.A. (Toronto), Ph.D. (Cambridge)
Lorraine M. York/B.A., M.A. (McMaster)

Associate Professors
Sarah Brophy/B.A. (Wilfrid Laurier), M.A., Ph.D. (McMaster)
Daniel Coleman/B.Ed., M.A. (Regina), Ph.D. (Alberta), Canada Research Chair
Jeffery Donaldson/B.A., M.A., Ph.D. (Toronto)
Catherine Grisé/B.A. (Trent), M.A., Ph.D. (Western Ontario)
Melinda Gough/B.A. (McGill), M.A., Ph.D. (Yale)
Roger L. Hyman/B.A. (York), M.A., Ph.D. (Western Ontario)
Grace Kehler/B.A. (Regina), M.A., Ph.D. (Western Ontario)
Susie O'Brien/B.A. (Queen's), M.A. (Queensland), Ph.D. (Queen's)
Anne Savage/B.A. (Calgary), Ph.D. (London)
Imre Szeman/B.A. (Queen's), M.A. (Western Ontario), Ph.D. (Duke)

Assistant Professors
Chandrima Chakraborty/B.A. (Calcutta), M.A., M.Phil. (Jawaharlal Nehru), Ph.D. (York)

SAKAT MAJUMDAR/B.A. (Calcutta), M.A. (Jadavpur), M.F.A. (Bowling Green State), Ph.D. (Rutgers)

Julie Park/B.A. (Bryn Mawr), M.A., Ph.D. (Princeton)


Helene Strauss/B.A., M.A. (University of the Free State), Ph.D. (Western Ontario)

Department Notes:

1. The following are courses open as electives to students registered in Level II or above of any undergraduate program.

ENGLISH 2C03 Contemporary Canadian Fiction

ENGLISH 2E03 Twentieth-Century British Literature

ENGLISH 2P03 Studies in American Literature

ENGLISH 2J03 Contemporary Popular Culture

ENGLISH 2L03 Shakespeare: Selected Plays

ENGLISH 2N03 Feminist Utopias

ENGLISH 2R03 Monsters and Magic

ENGLISH 3D03 Science Fiction

ENGLISH 3D04 Contemporary Canadian Drama

ENGLISH 3E03 African American Literature

ENGLISH 3H03 Jane Austen

ENGLISH 3R03 African Literature and Film

ENGLISH 3S03 Biblical Traditions in Literature

ENGLISH 3U03 Neanderthals and Nukes

ENGLISH 3W03 Contemporary Native Literature in Canada

ENGLISH 3X03 Contemporary Native Literature in the United States

ENGLISH 3Y03 Children's Literature

Please note that the Department is able to offer only a limited selection of elective courses each year.

2. Courses restricted to students registered in programs in English may be available to qualified students in other programs if space permits. Students interested in such courses should request permission from the departmental counsellor.

3. Level IV seminars are open only to Honours students registered in Level IV of an English program. Enrolment will be limited to 15 students per seminar when possible. A list of seminars to be offered will be available prior to registration and balancing for seminars for the next academic year will take place in March.

Courses

If no prerequisite is listed, the course is open.

ENGLISH 1A03 LITERATURE IN ENGLISH: SHORTER GENRES

A selection of shorter literary texts (short stories, poems, essays) will be studied. Students will be introduced to the elements of various genres and to a variety of interpretive approaches. Considerable emphasis will be placed on the development of critical skills in reading and writing.

Two lectures, one tutorial; one term

ENGLISH 1A13 LITERATURE IN ENGLISH: LONGER GENRES

A selection of longer literary texts - novels and plays - will be studied. Students will be introduced to the elements of the various genres and to a variety of interpretive approaches. Considerable emphasis will be placed on the development of critical skills in reading and writing.

Two lectures, one tutorial; one term

ENGLISH 1B03 CULTURAL STUDIES AND VISUAL CULTURE

An introduction to cultural studies focusing on the critical and conceptual tools for the analysis of various forms of visual culture (e.g., photography, film, television, advertising, new media technologies). Considerable emphasis is placed on the development of effective writing skills.

Two lectures, one tutorial; one term

Cross-list: C3ST 1B03

ENGLISH 1B13 CULTURAL STUDIES AND CONSUMER CULTURE

An overview of the development of cultural studies as an interdisciplin ary field of academic inquiry through an exploration of the history of mass and consumer culture. Considerable emphasis will be placed on the development of critical skills in reading and writing.

Two lectures, one tutorial; one term

Cross-list: C3ST 1B13

ENGLISH 1C06 A HISTORY OF ENGLISH LITERATURE

A survey centering on the history of English literature from its origins to the present providing a grounding in literary historical periods, genres, and critical approaches to works by canonical and non-canonical authors. Emphasis will be placed on critical skills in reading and writing.

Two lectures, one tutorial; two terms
ENGLISH 2A03 CONTEMPORARY CRITICAL APPROACHES TO LITERATURE
This course will offer a grounding in reading literary texts from a range of contemporary critical approaches.
Three hours; one term
Prerequisite: Registration in a program in English or Comparative Literature
Cross-list: COMP LIT 2A03
ENGLISH 2B06 THE DEVELOPMENT OF ENGLISH DRAMA
English drama from the medieval period to the close of the 18th century (excluding Shakespeare).
Three hours; two terms
Prerequisite: Registration in a program in English. Students registered in a program in Theatre & Film may apply to the Department for permission to take this course.
ENGLISH 2C03 CONTEMPORARY CANADIAN FICTION
A study of the themes and structure of the contemporary Canadian novel, usually with emphasis on the relationship between Canada's cultural patterns and its literature.
Three hours; one term
Prerequisite: Registration in Level II or above
Not open to students with credit or registration in ENGLISH 2G06.
ENGLISH 2D03 CREATIVE WRITING INQUIRY
A creative writing seminar and workshop based on the Inquiry model of self-directed research and collaboration. Students will exercise their creative talents in a variety of genres and work independently and in groups to develop critical skills and problem solving techniques.
Three hours; one term
Prerequisite: Registration in a program in English
ENGLISH 2E03 TWENTIETH-CENTURY BRITISH LITERATURE
A study of selected works of twentieth-century British Literature with an emphasis on the historical, intellectual, ideological and aesthetic contexts.
Three hours; one term
Prerequisite: Registration in Level II or above
Not open to students with credit or registration in ENGLISH 2106.
ENGLISH 2F03 STUDIES IN AMERICAN LITERATURE
A study of some of the most important writers who developed American literature as a distinctive mode of writing in English.
Three hours; one term
Prerequisite: Registration in a program in English
ENGLISH 2G06 COMMUNICATION STUDIES IN WOMEN
A survey of significant American texts from roughly 1865 to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms, and practices will allow students to trace historical and contemporary debates concerning culture.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies, Comparative Literature or English
Cross-list: COMP LIT 2G06, CSCT 2G06
ENGLISH 2K06 MODERN COUNTERCULTURES
An exploration of a variety of cultural forms (e.g., literature, art, photography, film, music) produced by avant-gardes and counter-cultural groups from the mid-19th century to the present. Areas of investigation may include surrealism, futurism, the beats, the sixties, situationism and punk.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies, Comparative Literature or English
Cross-list: COMP LIT 2K06, CSCT 2K06
ENGLISH 2L03 MODERN COUNTERCULTURES
An examination of the relationship to their own and our culture. Early texts will be read in modern versions.
Three hours; one term
Prerequisite: Registration in Level II or above
ENGLISH 2M03 CONCEPTS OF CULTURE
An analysis of the development of the concept of culture from the Enlightenment to the present. Theoretical readings combined with the analysis of specific cultural texts, objects, forms, and practices will allow students to trace historical and contemporary debates concerning culture.
Three hours; one term
Prerequisite: Registration in a program in Communication Studies, Comparative Literature or English
Cross-list: COMP LIT 2M03, CSCT 2M03
ENGLISH 2N03 FEMINIST UTOPIAS
An examination of literary texts offering women's visions of social change.
Three hours (seminar and discussion); one term
Prerequisite: Registration in Level II or above. WOMEN ST 1A06 (or 1A3) is recommended.
Cross-list: WOMEN ST 2N03
This course is administered by Women's Studies.
ENGLISH 2P03 MONSTERS AND MAGIC
An examination of texts that explore the monstrous and magical, from Beowulf to the 17th century, considering their relationship to their own and our culture. Early texts will be read in modern versions.
Three hours; one term
Prerequisite: Registration in Level II or above
ENGLISH 2Q06 AMERICAN LITERATURE: COLONIZATION, REVOLUTION AND SLAVERY
A survey of significant American texts from the origins of the tradition to the late nineteenth Century.
Three hours; two terms
Prerequisite: Registration in a program in English
Antirequisite: ENGLISH 2Q06
ENGLISH 2R06 AMERICAN LITERATURE: POSTBELLUM, MODERN AND CONTEMPORARY
A survey of significant American texts from roughly 1865 to the present. Texts will be selected from a variety of ethnic-cultural traditions.
Three hours; two terms
Prerequisite: Registration in a program in English
Antirequisite: ENGLISH 2R06
ENGLISH 2S03 CRITICAL RACE STUDIES
This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, English, Peace Studies or Women's Studies
Cross-list: COMP LIT 3S03, CSCT 3S03, PEACE ST 3A03, WOMEN ST 3H03
ENGLISH 3A03 THEORIES OF GENDER AND SEXUALITY
This course explores the concept of popular culture through an examination of specific cultural forms, with emphasis on analytic skills informed by cultural and critical theory.
Three hours; one term
Prerequisite: Registration in a program in Women's Studies
Cross-list: CSCT 2K06, WOMEN ST 2K06
ENGLISH 2X06 STUDIES IN WOMEN WRITERS
A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory will be a component of the course.
Three hours; two terms
Prerequisite: Registration in a program in English or Women's Studies
Cross-list: CSCT 2X06, WOMEN ST 2X06
ENGLISH 2Y06 SHAKESPEARE: SELECTED PLAYS
A study of a representative selection of plays.
Three hours; one term
Prerequisite: Registration in Level II or above
Not open to students with credit or registration in ENGLISH 3Y06.
A consideration of this tumultuous age, galvanized by revolutions in
communication and theatre. Comparative Literature, English or Theatre
& Film Studies. It is recommended that students should already have completed
THTR&FLM 2F03.
Cross-list: CMST 3CC3, COMP LIT 3L03, CSCT 3CC3, THTR&FLM 3R03

ENGLISH 3D03  SCIENCE FICTION
An examination of a number of standard science fiction tropes such as
time travel, lost worlds, utopia/dystopia, totalitarian societies, alien races,
and post-holocaust societies.
Three lectures; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in ENGLISH 3X03, TOPICS IN DRAMA,
if the topic was Science Fiction.

ENGLISH 3D03  CONTEMPORARY CANADIAN DRAMA
A course on current Canadian drama focusing on Canadian dilemmas,
readings of international politics, philosophical questions, innovation in
staging, and performance histories.
Three lectures; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in ENGLISH 3X03, TOPICS IN DRAMA,
if the topic was Contemporary Canadian Drama.

ENGLISH 3E03  AFRICAN AMERICAN LITERATURE
A study of selected texts by African American writers published since 1900,
considered in the context of African American history and literary tradition.
Three lectures; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in ENGLISH 3X03, TOPICS IN PROSE,
if the topic was African American Fiction.

ENGLISH 3G06  STUDIES IN EIGHTEENTH-CENTURY
BRITISH LITERATURE AND CULTURE
A study of English literature during the period 1660-1800, with special
attention to works by Dryden, Swift, Pope and Johnson.
Three hours; two terms
Prerequisite: Registration in a program in English

ENGLISH 3H03  JANE AUSTEN
A critical evaluation of a selection of Jane Austen's work with a focus on
exploring late eighteenth- and early nineteenth-century British culture.
Three lectures; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in ENGLISH 3I03, TOPICS IN PROSE,
if the topic was Jane Austen.

ENGLISH 3I06  THE AGE OF ELIZABETH I
A consideration of this tumultuous age, galvanized by revolutions in
exploration, religion, and selfhood, and ruled by a female monarch. Au-
thors include Spenser, Sidney and women writers.
Three hours; two terms
Prerequisite: Registration in a program in Comparative Literature or English
Cross-list: COMP LIT 3J06

ENGLISH 3J03  THE HISTORY OF ENGLISH
This course covers the emergence of English from the Indo-European
language group and the major changes which mark its evolution into a
global language of the present.
Three hours; one term
Prerequisite: Registration in a program in English
Antirequisite: ENGLISH 3J06

ENGLISH 3JJ3  THEORIES OF LANGUAGE
This course will introduce language theories of origin and nature in their
cultural contexts, including those which are now being invented.
Three hours; one term
Prerequisite: Registration in a program in English
Antirequisite: ENGLISH 3J06

ENGLISH 3K05  SHAKESPEARE
An extensive critical reading and discussion of selected plays.
Three hours; two terms
Prerequisite: Registration in a program in English. Students registered in
a program in Theatre & Film Studies may apply to the Department for
permission to take this course.

ENGLISH 3L06  THE EARLIEST ENGLISH
LANGUAGE AND LITERATURE
Old English language and literature will be studied in the context of Anglo-
Saxon culture, translation theory and practice.
Three hours; two terms
Prerequisite: Registration in a program in English

ENGLISH 3M06  STUDIES IN NINETEENETH-CENTURY
BRITISH LITERATURE AND CULTURE
A study of selected texts, genres, and issues of Nineteenth-Century Brit-
ish Literature, including reference to relevant social and political contexts.
Three hours; two terms
Prerequisite: Registration in a program in English

ENGLISH 3N06  THE BRITISH NOVEL
This course will trace the history of English fiction to the 20th century
and will focus on the varieties of narrative forms, while also exploring
the intellectual, cultural and psychological contexts of fiction.
Three hours; two terms
Prerequisite: Registration in a program in English

ENGLISH 3Q03  THE HISTORY OF CRITICAL THEORY
A survey of the main developments in critical theory from Plato to the end
of the 19th century. Areas of investigation may include: art, aesthetics,
civil society, representation, ethics, and knowledge.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature or English
Cross-list: COMP LIT 3Q03, CSCT 3Q03

ENGLISH 3Q03  CONTEMPORARY CRITICAL THEORY
This course examines selected issues in contemporary critical theory.
Areas of investigation may include: representation, power/knowledge,
discourse, subjectivity, and the body.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature or English
Cross-list: COMP LIT 3Q03, CSCT 3Q03

ENGLISH 3R06  POSTCOLONIAL CULTURES:
THEORY AND PRACTICE
A study of contemporary texts, including literature, film, art and other forms
of popular culture that engage the implications of living in a postcolonial
world. Close consideration will be given to issues of imperialism, globalization,
race, gender, ethnicity, nation, language and representation.
Three hours; two terms
Prerequisite: Registration in a program in Comparative Literature, English
or Peace Studies
Cross-list: COMP LIT 3R06, CSCT 3R06, PEACE ST 3E06

ENGLISH 3R06  AFRICAN LITERATURE AND FILM
This course introduces students to a selection of literary texts and films
from countries across the African continent.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: CSCT 3R03

ENGLISH 3S03  BIBLICAL TRADITIONS IN LITERATURE
A study of the influence of the Bible on Western literature, especially
English. Approaches may include the examination of symbolism, imagery,
typology, doctrinal themes and narrative structures.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 3S03

ENGLISH 3U03  NEANDERTHALS AND NUKES
An exploration of the emerging world view after World War II through a
consideration of approximately six British novels.
Three lectures; one term
Prerequisite: Registration in Level II or above
Not open to students with credit in ENGLISH 3I03, TOPICS IN PROSE,
if the topic was The British Novel After World War II.

ENGLISH 3V06  STUDIES IN 17TH-CENTURY LITERATURE
A detailed examination of poets and prose-writers of the period, with empha-
sis on the poetry of Donne, the “metaphysical school”, Jonson and Milton.
Three hours; two terms
Prerequisite: Registration in a program in English
ENGLISH 3W03  CONTEMPORARY NATIVE LITERATURE IN CANADA
A study of significant works by Native writers who give voice to their experience in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies, and stereotyping.
Three hours (lectures and seminars); one term.
Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor.
Cross-list: CSCT 3W03, INDIG ST 3D03, PEACE ST 3W03
This course is administered by Indigenous Studies.

ENGLISH 3X03  CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES
A study of contemporary works by Native writers within the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory.
Three hours (lectures and seminars); one term.
Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor.
Cross-list: CSCT 3X03, INDIG ST 3E03, PEACE ST 3X03
This course is administered by Indigenous Studies.

ENGLISH 3Y03  CHILDREN'S LITERATURE
A critical evaluation of literary works from approximately 1700 to the present written primarily for children.
Three lectures; one term.
Prerequisite: Registration in Level II or above.
Cross-list: CSCT 3Y03
Not open to students with credit in ENGLISH 3I3, TOPICS IN PROSE, if the topic was Children's Literature.

ENGLISH 4X03  HONOURS ESSAY
In consultation with members of the English Department, students will prepare an essay on an approved topic. This course is normally substituted for the Units of Level IV Seminar work in the second term. Students who are interested in taking 4X03 should contact the faculty member chairing the 4X03 committee early in the first term.
Prerequisite: Registration in Level IV of an Honours program in English Departmental permission required.

Note:
Level IV seminars are open only to Honours students registered in Level IV of an English program. Enrolment will be limited to 15 students per seminar when possible. The Department is able to offer only a selection of the seminars listed below every year. A list of seminars to be offered will be available prior to registration, which takes place through the Department in March.

ENGLISH 4A3  AFRICAN-AMERICAN WOMEN WRITERS
A study of a selection of African-American women writers, including Hurston, Walker, Morrison and Naylor, with a consideration of gender and race in literary theory.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4A3
Departmental permission required.

ENGLISH 4A3  THE AESTHETICS OF SEX IN THE 1890s
This course will focus on the ideologically related struggles of 1890s men and women to express radical forms of sexuality in literature and on the aesthetics and politics that enforced divisions along gender lines.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4A3
Departmental permission required.

ENGLISH 4A3  ASIAN AMERICAN WRITING
A study of selected texts by Americans and/or Canadians of Asian origin with a focus on race, ethnicity, gender, sexuality, class, immigration, multiculturalism, transnationalism and diaspora.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4A3
Departmental permission required.

ENGLISH 4B3  BLACK POPULAR CULTURE
This course focuses on the production and reception of black popular culture (particularly the entertainment industry and professional sports) in ways that problematize the racialization of cultural forms of expression.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4B3
Departmental permission required.

ENGLISH 4B3  THE BIBLE AND LITERATURE
A critical discussion of the Bible's overall narrative structure, the topological correspondences between Old and New Testaments and the use made of the Bible by poets and other writers.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Departmental permission required.

ENGLISH 4CB3  READING THE BESTSELLER: CONTEMPORARY BRITISH FICTION
An exploration of possible critical vocabularies for the analysis of recent British fiction in light of how bestseller lists, prizes, publicity and media adaptability now shape the writing, marketing, and reading of fiction.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4CB3
Departmental permission required.

ENGLISH 4CF3  CONTEMPORARY FICTION
A study of recent English and American fiction, with emphasis on metatext as well as the relationship between contemporary literary theory and fiction.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4CF3
Departmental permission required.

ENGLISH 4CJ3  CRUSADE AND JIHAD
The medieval battles over Jerusalem semantically haunt the present and recent past, the relationship of Muslim, Christian and Jewish life and politics.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4CJ3
Departmental permission required.

ENGLISH 4EM3  MODERNISM AND EMPIRE
An examination of the formalistic, ideological and political relationship between British modernism and postcolonial studies through reading literary texts and cultural-historical contexts of modernism.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4EM3
Departmental permission required.

ENGLISH 4FR3  FANTASIES OF THE ORIENT IN EIGHTEENTH-CENTURY BRITAIN
This course explores how eighteenth-century England registered and imagined "the other" through "the Orient", as well as how the Orient shaped emerging literary genres and modes.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4FR3
Antirequisite: ENGLISH 4F03
Departmental permission required.

ENGLISH 4FT3  THE FAIRY TALE
A study of the fairy tale from the structuralist, psychoanalytic, and sociological points of view, concentrating on the tales of the Brothers Grimm in translation and considering the importance of fairy tales in acculturation and their symbolic significance.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Cross-list: CSCT 4FT3
Departmental permission required.

ENGLISH 4FW3  FORMS OF CREATIVE WRITING
This seminar will combine a hands-on study of form with an opportunity for students to exercise and focus their own creative energies. In any given year, the course will concentrate on either verse or fictional form.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Departmental permission required.

ENGLISH 4GW3  GOOD WOMEN, BAD GIRLS
This seminar explores representations of feminine virtue and vice with examples drawn from early sagas, epics, tales, hagiography, drama, miracle stories, and romance.
Seminar (two hours); one term.
Prerequisite: Registration in Level IV of an Honours program in English.
Departmental permission required.
ENGLISH 4HC3: THE HISTORY OF CULTURAL STUDIES
A study of the history of cultural studies from its origins in the Frankfurt School, through the Birmingham Centre for Contemporary Cultural Studies, to its dispersal into distinct modes of academic practice.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4HC3
Departmental permission required.

ENGLISH 4HL3: CANADIAN HOLOCAUST NOVELS
An examination of selected Canadian novels that respond to the Holocaust. Aesthetic and ethical issues involved in such responses will also be discussed.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENGLISH 4ID3: DISLOCATION AND BELONGING: CANADIAN WRITINGS OF IMMIGRATION AND DIASPORA
This course examines works by and about people who have moved between cultural locations to consider questions of cultural and cross-cultural identity.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4ID3
Departmental permission required.

ENGLISH 4J03: CROSSING BORDERS: GLOBAL FEMINISMS
Examines how women's lives are being transformed in a changing global society and the implications of women's changing places in society for feminist theory and practice.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4J03, WOMEN ST 4J03
Departmental permission required.

ENGLISH 4LM3: EIGHTEENTH-CENTURY MACHINE LIFE
This seminar will explore how metaphors and constructions of the machine pushed the boundaries of what it meant to be human during the eighteenth century.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4LM3
Departmental permission required.

ENGLISH 4LT3: LITERATURE AND FILM
An exploration of films as texts by paying close attention to the notion of "looking" and "gazing".
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4LT3
Departmental permission required.

ENGLISH 4MB3: MEMORIALIZING THE PAST: MEMORY INDUSTRY OF POST-APARTHEID SOUTH AFRICA
A study of some of the ways in which the past is re-imagined in post-1994 South African cultural texts.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4MB3
Departmental permission required.

ENGLISH 4MO3: MODERNISM AND THE POLITICS OF FORM
Reading of modernist texts in the light of the contested relationship of formal/technical experimentation with the politics of race, gender, colonialism and other modes of power relations.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4MO3
Departmental permission required.

ENGLISH 4NH3: HAWTHORNE
This seminar will examine the works of Nathaniel Hawthorne, with special attention to structural and psychological aspects of his writings.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENGLISH 4ON3: MICHAEL ONDAATJE
This course explores various approaches to Michael Ondaatje's poetry and prose: gender, postcoloniality, and interdisciplinarity (Ondaatje's engagement with film, photography, painting and music) are topics of particular interest.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4ON3
Departmental permission required.

ENGLISH 4OP3: THE "OPRAH EFFECT"
This seminar considers the influence of Oprah Winfrey at various sites of cultural contestation: television, magazine publication, women's body images, entrepreneurship, celebrity activism, race, "self-help.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4OP3
Departmental permission required.

ENGLISH 4PC3: PSYCHE AND CULTURE
This course explores the psychoanalytic understanding of culture with reference to three main areas: ideology, gender polarity, and imaginative culture (the arts and literature).
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4PC3
Antirequisite: COMP LIT 4PC3, 4F03
Departmental permission required.

ENGLISH 4QM3: SHAKESPEARE'S APPRENTICESHIP: MORAL PLAYS AND THE QUEEN'S MEN
This course will examine some of the popular plays the young Shakespeare would have seen, focusing on playing spaces, character types and cultural attitudes.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENGLISH 4RT3: TELEVISION AND CONTEMPORARY CULTURE
This seminar studies the cultural artefact called "television," providing a comprehensive overview of various approaches to its study and the requisite theoretical tools to "read" this important element of contemporary culture.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4RT3
Departmental permission required.

ENGLISH 4SC3: WOMEN WRITERS OF THE 16TH AND 17TH CENTURIES
This seminar explores a variety of works written by women in 16th- and 17th-century England, with a consideration of their literary and cultural contexts, and the construction of female identity.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENGLISH 4SF3: SCIENCE FICTION TOMORROW OR THE DAY AFTER
This seminar will examine science fiction based in the present or near future in the context of artificial intelligence theory, economic possibilities and biology.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4SF3
Departmental permission required.

ENGLISH 4SS3: SHAKESPEARE AND SHAKESPEARE'S SISTERS
By examining works from different genres, this course explores the ways gender expectations shaped women's and men's contributions to popular and elite culture in early modern England.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4SS3
Departmental permission required.
An introduction to environmental geology and
Two lectures, one tutorial, one lab (two hours); second term

Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4T3
Departmental permission required.

ENGLISH 4UT3 UTOPIAN LITERATURE
A study of the genre through English literature, from its roots in Plato’s Republic, through the Middle Ages and the Renaissance to contemporary literature.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4UT3
Departmental permission required.

ENGLISH 4WC3 THE WITCHCRAFT CONTROVERSY IN PRINT AND ON STAGE, 1555-1656
An exploration of conflicting attitudes toward witches in England and Scotland, questioning ideological assumptions about gender, class, education, health, social welfare, marriage, and sexuality.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENGLISH 4WJ3 WOMAN AND THE NATION IN INDIAN POPULAR CINEMA
An examination of Indian popular cinema (Bollywood) and its construction of the nation through representations of women. Themes may include: partition, religion, sexuality, minority, caste, diaspora.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4WJ3
Departmental permission required.

ENGLISH 4WJ3 GLOBALIZATION AND POSTCOLONIAL FICTION
This course examines fictional representations of the ideology and processes of globalization, while also considering how globalization shapes the production and consumption of postcolonial culture.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Cross-list: CSCT 4WJ3
Departmental permission required.

ENGLISH 4WJ3 WOMEN WRITERS OF THE EIGHTEENTH CENTURY
An exploration of poetry and fiction written by women in the 18th century, with particular attention to the social and philosophical concerns of these writers.
Seminar (two hours); one term
Prerequisite: Registration in Level IV of an Honours program in English
Departmental permission required.

ENVIRONMENTAL SCIENCE

Courses If no prerequisite is listed, the course is open.

ENVR SC 1A03 ATMOSPHERE AND HYDROSPHERE
An introduction to the processes involved in weather, climate and surface and subsurface waters with a focus on the human impacts on these processes.
Two lectures, one tutorial, one lab (one hour); second term

ENVR SC 1B03 THE LIVING ENVIRONMENT
Characteristics of the biosphere and introduction to major environmental processes and issues.
Two lectures, one tutorial, one lab (two hours); second term
Prerequisite: Credit or registration in SCIENCE 1A00

ENVR SC 1G03 EARTH AND THE ENVIRONMENT
An introduction to environmental geology and geomorphology through study of the processes that form the earth and its surface features. A mandatory one day field trip will be held.
Two lectures, one tutorial, one lab (two hours); first term

FRENCH

WEB ADDRESS: http://www.humanities.mcmaster.ca/~french
Togo Salmon Hall, Room 612 Ext. 24470

Faculty as of January 15, 2007

Chair
Michael Klifter

Professors
Marie-Madeleine Ahmed/L, M, L, M, F, D, l, U (Paris-Sorbonne)
Caroline Bayard/L, M, L, M, F, D, L, (Toulouse), M, A, Ph.D. (Toronto)
Suzanne Crosta/A, M, A, Ph.D. (Toronto)
Madeleine Jeay/L, M, L (Bordeaux), M, A, Ph. D. (Montréal)
William F. Hanley/B, A, M, L, M, F, D, L, (Paris-Sorbonne), D, Ph.D. (Toronto)

Associate Professors
Michael Klifter/B, A, M, A, Ph.D. (Cornell)
Gabriel Moyley/B, M, A, Ph.D. (Toronto)
Anna St. Leger Lucas/B, M, A, Ph.D. (Toronto)
Alexandre Sévigny/B, A, (York), M, A, Ph.D. (Toronto)
John C. Stout/B, A, M, A, Ph.D. (Toronto)

Assistant Professors
Stéphanie Posthuymus/B, A, M, A, Ph.D. (Queens’s, Princeton)
Jane A.C. Rush/B, A, M, A, Ph.D. (California-Los Angeles)
Muriel Walker/L, M, L, M, F, D, L, (Paris-Sorbonne)

Program Coordinator, Continuing Education
Hélène Gallier-Morgan, D, U, E, L, M, L, M, M, D, A, (Paris-Sorbonne)

ENTRY INTO LEVEL I COURSES AND FRENCH PROGRAMS

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Courses If no prerequisite is listed, the course is open.

FRENCH 1A06 INTRODUCTION TO FRENCH STUDIES: ADVANCED LEVEL
Review of grammar, oral and written practice, and introduction to literary analysis.
Four hours (including one oral French tutorial); two terms
Prerequisite: Grade 12 French U (core, immersion or français). The Department reserves the right to place students in the course most appropriate to their abilities. Immersion students should register in this course. Antirequisite: FRENCH 1K06, 1N06, 1Z06, 2M06, 2M05

FRENCH 1K06 INTERMEDIATE FRENCH
Intensive review of basic structures and vocabulary to develop proficiency in oral and written French. The sequel to this course is FRENCH 2M06.
Five hours (including two tutorials); two terms
Prerequisite: Grade 10 or 11 French and registration in a program in the Faculty of Humanities or Social Sciences or the Arts & Science program. The Department reserves the right to place students in the course most appropriate to their abilities. Immersion students and Francophones may not register in this course.
Antirequisite: FRENCH 1A06, 1N06, 1Z06, 2M06, 2206. Grade 12 French U Not open to students with credit or registration in FRENCH 2M06.
BEGINNER'S INTENSIVE FRENCH I
An intensive course for developing basic skills in both written and spoken French. The normal sequel to this course is FRENCH 2206.
Prerequisite: This course is designed for students with Grade 9 French or less and for students with Grade 10 or 11 French who are registered in Faculties other than Humanities or Social Sciences or the Arts & Science program.
Antirequisite: Grade 12 French U, FRENCH 1A06, 1K06. Not open to Francophones.

BEGINNER'S INTENSIVE FRENCH II
A sequel to FRENCH 1206. Review of grammatical structures. Expansion of vocabulary. Conversation practice. Study of texts with class discussions. The normal sequel to this course is FRENCH 2M06. This course cannot be applied toward a Minor in French.
Prerequisite: FRENCH 1206
Antirequisite: FRENCH 1K06, 1N06
Not open to students with credit or registration in FRENCH 1A06, 1B06, 2B03, 2M06.

EVOLUTION OF THE FRENCH LANGUAGE
This course will be based on treatises of the French language dating from the Middle Ages to the present and will show how French has changed over the centuries. The subject matter is divided into four modules treating vocabulary, syntax, verb forms and spelling from a historical point of view.
Three hours; one term.
Prerequisite: FRENCH 2B03
Alternates with FRENCH 3J3.

THE MODERN FRENCH-CANADIAN NOVEL
Representative novels by contemporary authors with emphasis upon the relationship between technique and meaning.
Three hours; one term.
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2Z06.

FRENCH LANGUAGE PRACTICE: WRITTEN
Advanced grammar and composition; introduction to stylistics.
Three hours; one term.
Prerequisite: A grade of at least B- in FRENCH 2B03.
Antirequisite: FRENCH 4R06.

FRENCH LANGUAGE PRACTICE: INTERMEDIATE TRANSLATION
A course designed to improve competence in oral and written expression. Written proficiency includes the study of vocabulary, grammar and composition. The oral component will stress listening, comprehension and conversational proficiency.
Four hours (including one oral French tutorial); one term.
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06.
Antirequisite: FRENCH 2A03, 4R06.

FRENCH LANGUAGE PRACTICE: ELEMENTARY TRANSLATION
An introduction to translation techniques (French to English and English to French) and to the use of pertinent reference material.
Three hours; one term.
Prerequisite: A grade of at least B- in FRENCH 1A06 or 2M06 or B+ in FRENCH 1N06.

INTRODUCTION TO FRENCH LINGUISTICS I
A view of language as system (Saussure, Jakobson, Martinet). Descriptive vs. prescriptive approaches to language studies will be considered, with stress on the French-speaking world. Speech sounds (phonetics) and their systematic patterning (phonology), mainly with application to French, will also be examined.
Three hours; one term.
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06.

INTRODUCTION TO FRENCH LINGUISTICS II
The study of contemporary France through a selection of texts and audiovisual materials.
Three hours; one term.
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06.

ADVANCED LEVEL
Review of grammar, oral and written practice, and introduction to literary analysis.
Four hours (including one oral French tutorial); two terms.
Prerequisite: One of FRENCH 1K06, 1N06 or 2Z06.
Antirequisite: FRENCH 1A06.
Not open to students with credit or registration in FRENCH 2B03.

INTRODUCTION TO THE CIVILIZATION OF FRANCE
The study of contemporary France through a selection of texts and audiovisual materials.
Three hours; one term.
Prerequisite: One of FRENCH 1A06, 1N06 or 2M06.

TRANSLATION FROM FRENCH TO ENGLISH
The study of contemporary France through a selection of texts and audiovisual materials.
Three hours; one term.
Prerequisite: One of FRENCH 1K06, 1N06 or 2Z06.
FRENCH 3K03  
REvolutionary Literature Before the Revolution: Voltaire, Rousseau, and Beaumarchais

Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Q03  
17th-Century French Literature I
A study of selected plays by Corneille, Molière and Racine.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Q03  
17th-Century French Literature II
A consideration of selected themes as they appear in the works of major French writers of the 17th century.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3S03  
Studies in Medieval Language and Civilization
An exploration of the particular characteristics of Old French through a selection of Medieval texts representative of the civilization of the period (chivalry, courtly love, feasts and rituals).
Three hours; one term
Prerequisite: FRENCH 2BB3

FRENCH 3W03  
20th-Century French Literature I
Aspects of the development of 20th-century literature to the end of the Second World War.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3W03  
20th-Century French Literature II
Aspects of the development of 20th-century literature since the Second World War.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3W03  
20th-Century French Literature III
Study of a selection of French literary texts published in the 21st century and an introduction to the problems associated with studying contemporary literature.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Y03  
21st-Century French Literature
Study of a selection of French literary texts published in the 21st century and an introduction to the problems associated with studying contemporary literature.
Three hours; one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 3Z03  
African and Caribbean French Literatures
Three hours; one term
Prerequisite: One of FRENCH 1A06, 2M06 or registration in a French program

FRENCH 4A03  
French Language Practice
Advanced stylistics and composition.
Three hours; one term
Prerequisite: A grade of at least B- in FRENCH 3C03 and registration in an Honours program in French

FRENCH 4B03  
French Language Practice: Advanced Translation
Practice in the translation into French of texts of a specialized nature (e.g., administration, business, politics).
Three hours; one term
Prerequisite: FRENCH 3C03, 3CC3 or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.

FRENCH 4D03  
Science and Literature
Study of a selection of French literary texts that integrate scientific discourse as a way of questioning representations of the other, self, history and reality.
Seminar (two hours); one term
Prerequisite: Six units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4E03  
Applied Linguistics and Second-Language Learning
An examination of various aspects of second language acquisition as applied to the teaching of French, with special emphasis on psycholinguistic and cognitive scientific factors.
Seminar (two hours); one term
Prerequisite: FRENCH 2H03 or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.

FRENCH 4F03  
Topics in 18th-Century French Literature
Previous topics include: Theatre, Performance, and the Enlightenment. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4F03  
Topics in Linguistics
Previous topics include: Lexicology, Pragmatics, Sociolinguistics. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: FRENCH 2H03 or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.

FRENCH 4I03  
Topics in French Poetry
Previous topics include: Poets of Humour, Love Poetry, Women Poets, Poetics and Maudits. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4I03  
French Socio-Linguistics
The study of linguistic variations within French-speaking communities with special emphasis on sociolinguistic issues arising in multilingual societies (Africa, America, Europe...).
Three lectures; one term
Prerequisite: FRENCH 2H03

FRENCH 4J03  
French Literature of the Renaissance
Characteristic themes of Renaissance humanism as they appear in the works of Rabelais, Montaigne, and selected poets.
Three hours; one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4J03  
French Literature of the Renaissance
Characteristic themes of Renaissance humanism as they appear in the works of Rabelais, Montaigne, and selected poets.
Three hours; one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4L03  
Topics in French African and Caribbean French Literatures
Previous topics include: Contemporary Caribbean Writers, Literature of Senegal. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4L03  
Topics in French African and Caribbean French Literatures
Previous topics include: Contemporary Caribbean Writers, Literature of Senegal. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4L03  
Topics in French African and Caribbean French Literatures
Previous topics include: Contemporary Caribbean Writers, Literature of Senegal. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4M03  
Sex, Violence and Elegance: The 18th-Century Novel
A study of the genesis and themes of representative 18th-century novels.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4N03  
Topics in the French Novel
Previous topics include: Emile Zola, Balzac's Novels: History and Fiction. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4N03  
Topics in the French Novel
Previous topics include: Emile Zola, Balzac's Novels: History and Fiction. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4N03  
Topics in the French Novel
Previous topics include: Emile Zola, Balzac's Novels: History and Fiction. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2206

FRENCH 4R03  
French Reading Course (Taught in English)
Students intending to enter graduate programs will be provided with reading skills and techniques which will enable them to comprehend academic texts. Reading materials are selected to practice textual analysis, study grammatical usage and aid in vocabulary development. Credit obtained in this course may be accepted in fulfillment of the second language reading requirement for graduate programs.
Four hours, four days per week; one term
Offered during the first term of summer session only.
Prerequisite: FRENCH 1206 and registration in any Level IV Honours Program or permission of the French Department
Antirequisite: FRENCH 2B03, 2BB3, 3C03
Not open to students registered in a program in French.

FRENCH 4503  MEDIEVAL LITERATURE
A study of selected texts of Medieval French Literature: songs and poetry of the troubadours and trouveres, Arthurian romance, comic and satiric narratives. Modern French translations will be used.
Three hours; one term
Prerequisite: FRENCH 2BB3

FRENCH 4703  INDEPENDENT STUDY
The student will prepare under the supervision of a faculty member a research paper involving independent research in an area of study in which the student has already demonstrated a high level of basic knowledge.
Prerequisite: Registration in Level IV of an Honours program in French and permission of the FRENCH 4703 Committee
Seminar (two hours); one term

FRENCH 4U03  TOPICS IN FRENCH-CANADIAN LITERATURE
Previous topics include: Fiction and Postmodern Cultural Theories, Women Writers of Quebec. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4U03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4V03  CROSS-PERIOD THEMES
Topics may include: Erotic Literature, Literary Influences Underlying Psychoanalysis, Varying Practices in Literary Translation Across the Centuries. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4V03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4X03  LINGUISTICS AND LITERATURE
General linguistics applied to literary analysis. Includes narrative structures, pragmatics and sign theory.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06; or registration in Level III or IV of the Honours Linguistic Cognitive Science program. Students not registered in a program in French should have communicative competence in French.
FRENCH 4X03 may be repeated, if on a different topic, to a total of six units.

FRENCH 4Y03  TOPICS IN 20TH-CENTURY FRENCH LITERATURE
Previous topics include: Women's Writing, The Essay, Gay and Lesbian Novel in France. Consult the Department concerning topic to be offered.
Seminar (two hours); one term
Prerequisite: 12 units of French above Level I, excluding FRENCH 2M06 and 2Z06
FRENCH 4Y03 may be repeated, if on a different topic, to a total of six units.

GENERAL TECHNOLOGY

(SEE TECHNOLOGY, GENERAL TECHNOLOGY)

GEOGRAPHY AND EARTH SCIENCES

WEB ADDRESS: http://www.science.mcmaster.ca/geo/
Burke Science Building, Room 235
Ext. 24535

Faculty as of January 15, 2007

Director
John J. Drake

Associate Director
Richard S. Harris

Distinguished University Professor

Professors
Vera Chouinard/B.A. (Western Ontario), M.A. (Toronto), Ph.D. (McMaster)
Alan P. Dickin/M.A. (Cambridge), D.Phil. (Oxford)
John J. Drake/M.A. (Oxford), M.Sc., Ph.D. (McMaster)

Susan J. Elliott/M.A., Ph.D. (McMaster)
Carolyn H. Eyles/B.Sc. (East Anglia), M.Sc., Ph.D. (Toronto)
Frederick L. Hall/A.B. (Amherst), M.Sc. (M.I.T.), Ph.D. (Chicago)/Professor of Civil Engineering and Engineering Mechanics
Richard S. Harris/B.A. (Cambridge), M.A. (Ohio), Ph.D. (Queen's)
Pavlos S. Kanaroglou/B.Sc. (Athena), M.A., M.Sc., Ph.D. (McMaster)/Senior Canadian Research Chair
Kee-Lee Llaw/B.S. (National Taiwan), M.A. (Kansas State), Ph.D. (Clark)
William A. Morris/B.Sc. (Leeds), Ph.D. (Open University)
Bruce Newbould/B.A., Ph.D. (McMaster)
W. Jack Rink/B.Sc., Ph.D. (Florida State)
Ming-ko Woo/M.A. (Hong Kong), Ph.D. (British Columbia)

Associate Professors
Altaf Arain/B.E. (Pakistan), M.S., Ph.D. (Arizona)
Joe Boyce/B.Sc. (McMaster), M.Sc., Ph.D. (Toronto)
Paulin Coulbaly/B.A.Sc., M.A.Sc. (Nice), Ph.D. (Laval)
Darren Grocke/B.Sc. (Adelaide), M.Sc. (Monash), D.Phil. (Oxford)
Eduard Reinhardt/B.A., Ph.D. (Carleton)
Darren Scott/B.A. (St. Mary's), M.A. (Western Ontario), Ph.D. (McMaster)
James Smith/B.Sc., M.Sc (Guelph), Ph.D. (Waterloo)
J. Michael Waddington/M.Sc., Ph.D. (York)
Lesley A. Warren/B.Sc., Ph.D. (Toronto)
Allison Williams/M.A. (Toronto), Ph.D. (York)
Robert D. Wilton/B.A. (Hull), M.Sc., Ph.D. (Southern California)

Assistant Professors
Antonio Paez/B.Sc. (Mexico), M.Sc., Ph.D. (Tohoku)
Greg Slater/B.Sc., M.Sc., Ph.D. (Toronto)/Canada Research Chair

Associate Members
Gavin Andrews/Health Aging and Society B.A. (Wales), Ph.D. (Nottingham)
Sarah Dickson/Civil Engineering B.A.Sc., Ph.D. (Waterloo), P.Eng.
Lynne Lohfeldl/Clinical Epidemiology Biostatistics B.A. (William Smith), M.S. (Wisconsin), Ph.D. (Connecticut)
Susan Vajoczki/Social Sciences M.Sc. (McMaster)
John C. Weaver/History B.A. (Queen's), M.A., Ph.D. (Duke)

Lecturer
Walter Peace/M.A., Ph.D. (McMaster)

School Notes:
1. The Honours Earth and Environmental Sciences programs allow students to select a specialist stream in geoscience (formerly biogeoscience), geosciences or hydrosciences at the end of Level II. Specialist streams aim to fulfill the academic requirements for professional registration of Geoscientists in Ontario. Students should seek academic advice from the School during March counselling in Level II to ensure that their course choices are appropriate.
2. Course codes including the letter H indicate a non-science course.
3. Students are advised that not all courses will be offered in every year.

Courses

If no prerequisite is listed, the course is open.

GEO 1HS3  GEOGRAPHY OF THE HUMAN ENVIRONMENT
Introduction to human-environment relations and spatial analysis with special emphasis on urban, social, health and cultural environments.
Two lectures, one lab (one hour); first term and second term

GEO 1HU3  URBAN ECONOMIC GEOGRAPHY
Basic principles in spatial analysis and location theory applied to the changing urban, economic and environmental patterns of development and urbanization at the local, national and international scale.
Two lectures, one lab (one hour); second term

GEO 2A03 INTRODUCTION TO ENVIRONMENTAL ISSUES
An introduction to issues, perspectives and models in environmental studies at local, regional, national and international scales.
Two lectures, one lab (two hours); one term
Prerequisite: One of ENVIR SC 1A03, 1B03, 1G03, GEO 1HS3, 1HU3

GEO 2B03  SOILS AND THE ENVIRONMENT
An introduction to the physical, chemical and biological properties of soil. Application to environmental and land use impacts.
Two lectures, one lab (three hours); one term
Prerequisite: One of ENVIR SC 1A03, 1B03, 1G03
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 2C03</td>
<td>SURFACE CLIMATE PROCESSES AND ENVIRONMENTAL INTERACTION</td>
<td>The surface heat and water balance of natural and human-modified landscapes. Emphasis on interactions of people and the biosphere with climate. Two lectures, one lab (two hours); one term. Prequisite: One of ENVIR SC 1A03, 1B01, 1G03.</td>
</tr>
<tr>
<td>GEO 2E03</td>
<td>EARTH HISTORY</td>
<td>Geological evolution of the Earth and paleontological evidence for the evolution of marine life, with emphasis on the geological history of North America. Two lectures, one lab (three hours) one term. Prequisite: ENVIR SC 1G03.</td>
</tr>
<tr>
<td>GEO 2G03</td>
<td>EARTH SURFACE PROCESSES</td>
<td>An examination of the many dynamic processes that shape the face of the earth, including fluvial, eolian, coastal, mass wasting, karst and weathering processes. Two lectures, one lab (two hours); one term. Prequisite: ENVIR SC 1A03 or 1G03.</td>
</tr>
<tr>
<td>GEO 2G33</td>
<td>NATURAL DISASTERS</td>
<td>A study of natural processes including plate tectonics, earthquakes, volcanoes, landslides, river erosion and climate change and their impacts on human populations. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 2H03</td>
<td>URBAN ECONOMIC GEOGRAPHY</td>
<td>Economic-geographical analysis applied to urban problems at different scales of aggregation. Topics include urbanization, urban spatial structure, major urban externalities and urban size. Two lectures, one lab (two hours); one term. Prequisite: GEO 1HS3 or 1HU3.</td>
</tr>
<tr>
<td>GEO 2H3</td>
<td>CANADA</td>
<td>The geography of Canada emphasizing the economic and social geography of regions and current development issues. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 2H03</td>
<td>URBAN HISTORICAL GEOGRAPHY</td>
<td>The historical development of cities with particular reference to old world origins, and focusing on North America since 1850. Two lectures, one lab (two hours); one term.</td>
</tr>
<tr>
<td>GEO 2H3</td>
<td>POPULATION, SOCIETIES, AGING AND THE ENVIRONMENT</td>
<td>Differential growth of human populations and their changing age and sex structures with an emphasis on birth and death processes. The connections between population structures and processes and various aspects of environments and societies including aging, are emphasized. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 2H3</td>
<td>RESEARCH METHODS IN SOCIAL GEOGRAPHY</td>
<td>An introduction to research methods in social geography. Emphasis is placed on the application of various methods to understanding human spatial behaviour. Two lectures, one lab (one hour); one term. Prequisite: GEO 1HS3 or 1HU3. Antirequisite: ANTHROP 2203, CMST 2A03, GERONTOL 2C03, HEALTHST 2B03, SOCIOL 2203.</td>
</tr>
<tr>
<td>GEO 2H3</td>
<td>THE UNITED STATES OF AMERICA</td>
<td>The physical and economic geography of the United States. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 2HY2</td>
<td>CITIES IN A CHANGING WORLD</td>
<td>Key themes, perspectives and concepts in urban social geography are examined. Emphasis is placed on the relationship between processes of economic, political and cultural change and people's everyday lives in urban settlements. Two lectures, one lab (one hour); one term. Prequisite: GEO 1HS3 or 1HU3.</td>
</tr>
<tr>
<td>GEO 2I03</td>
<td>GIS AND DIGITAL CARTOGRAPHY</td>
<td>An introduction to the principles and techniques underlying the use of a GIS (Geographic Information Systems) for storing, managing, analyzing and visualizing &quot;geographic&quot; data. Cartographic principles are also introduced to emphasize the production of effective thematic maps using a GIS. Two lectures, one lab (two hours); one term. Prequisite: One of MATH 1A03, 1B03, 1G03, SOC SCI 2J03, STATS 1C03.</td>
</tr>
<tr>
<td>GEO 2K03</td>
<td>OPTICAL CRYSTALLOGRAPHY AND MINERALOGY</td>
<td>Introduction to crystallography, optical theory, and the polarizing microscope. Identification of minerals in igneous and sedimentary rocks and discussion of their structure and chemistry. Two lectures, one lab (three hours); one term. Prequisite: ENVIR SC 1G03.</td>
</tr>
<tr>
<td>GEO 2M3</td>
<td>GEMSTONES: ORIGINS AND CHARACTERISTICS</td>
<td>An examination of gemstones focusing on their geologic origin, mineralogy, colour, chemistry, economic value and historical significance. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 2Q03</td>
<td>INTRODUCTION TO ENVIRONMENTAL GEOCHEMISTRY</td>
<td>Chemical principles applied to the understanding of processes in aquatic and environmental systems. Two lectures, one lab (three hours); one term. Prequisite: CHEM 1A03.</td>
</tr>
<tr>
<td>GEO 2W03</td>
<td>PHYSICAL HYDROLOGY: SURFACE</td>
<td>Hydrological processes including precipitation, snowmelt, slope runoff, streamflow and hydrological data analysis. Two lectures, one lab (two hours); one term. Prequisite: One of MATH 1A03, 1B03, 1D03, SOC SCI 2J03, STATS 1C03; and one of ENVIR SC 1A03, 1B03, 1G03.</td>
</tr>
<tr>
<td>GEO 2W03</td>
<td>WATER AND THE ENVIRONMENT</td>
<td>Selected environmental issues related to water, including floods and droughts, irrigation, effects of water management projects and pollution. Examples from Canada and the world. Three lectures; one term. Prequisite: Registration in Level II or above.</td>
</tr>
<tr>
<td>GEO 3A03</td>
<td>ENVIRONMENTAL POLICY AND PLANNING</td>
<td>A theoretical and practical exploration of environmental policy, planning and decision-making, as well as the relationships between science, society, and policy design. Two lectures, one lab (two hours); one term. Prequisite: GEO 2A03; or registration in an Honours Biology, an Engineering and Society program or an Honours program in the School of Geography and Earth Sciences.</td>
</tr>
<tr>
<td>GEO 3A3</td>
<td>GEOSCIENCE EXPLORERS AND ADVENTURERS</td>
<td>An examination of the discoveries made by geoscience explorers of modern times including those made on the moon and mars, in the deep and shallow seas, and in the landscapes inhabited by the earliest life forms, dinosaurs and the first humans. Three lectures; one term. Prequisite: Registration in Level III or above.</td>
</tr>
<tr>
<td>GEO 3B03</td>
<td>GEOARCHAEOLOGY OF THE UNDERWATER REALM</td>
<td>Methods in underwater exploration; geoscientific record of human interaction with the marine environment and the effects of climate and sea level changes. Three lectures; one term. Prequisite: Registration in Level III or above.</td>
</tr>
<tr>
<td>GEO 3D3</td>
<td>GEARCHAEOLOGY OF THE UNDERWATER REALM</td>
<td>Sedimentary processes, stratigraphy and depositional environments of clastic and carbonate systems. Two lectures, one lab (two hours); one term. Prequisite: GEO 2E03.</td>
</tr>
</tbody>
</table>
A field camp to introduce students to field equipment and methodologies used by earth and environmental scientists. Most of this course occurs outside the regular academic term, usually the two weeks preceding the start of term in September; details and applications are available in March. Students enrolling in this course must pay both the incidental fees as prescribed by the School and the regular tuition fees.

Prerequisite: GEO 2E03 and registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3H3**  
**TRANSPORTATION GEOGRAPHY**  
Principles and techniques applied to understanding, predicting and optimizing movement for transportation systems at various geographical scales. Problems arising from movement are also discussed. Two lectures, one lab (two hours), one term  
Prerequisite: One of ECON 1A06, 1B03; GEO 1H3, 1HU3

**GEO 3H3E3**  
**ENVIRONMENTAL AND NATURAL RESOURCE MANAGEMENT**  
An introduction to the methods and tools of resource management and economics, focusing on the development of resource systems and the environmental implications. Three lectures; one term  
Prerequisite: GEO 1HU3

**GEO 3H3F3**  
**FIELD STUDY IN HUMAN GEOGRAPHY**  
Introduction to field research in Human Geography, usually in the Hamilton area. Two lectures (two hours), one term  
Prerequisite: GEO 2H303 and registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3H3G3**  
**POPULATION DISTRIBUTION AND MIGRATION**  
Introduction of important theories, models and facts in the fields of population distribution and internal and international migration processes. One lecture (three hours); one term  
Prerequisite: GEO 1HS3 or 1HU3; and one of COMMERCE 2QA3, HTH SCI 1F03, 2A05, KINESIOL 3C03, MATH 1AA3, 1B03, 1D03, SOC SCI 2J03, STAT 1A03, 1CC3; and registration in Level III or above

**GEO 3H3H3**  
**GEOGRAPHY OF HEALTH AND HEALTH CARE**  
An understanding of traditions in health geography and an exploration of the determinants of health including the social environment, the physical environment and health care services. Three lectures; one term  
Prerequisite: GEO 1HS3 or 1HU3

**GEO 3H3J3**  
**GEOGRAPHY OF JAPAN**  
Human and physical geography of Japan with emphasis on historical, international, demographic and economic aspects. One lecture (three hours); one term  
Prerequisite: Registration in Level III or above

**GEO 3H3R3**  
**GEOGRAPHY OF A SELECTED WORLD REGION**  
The study of an area outside of North America which will include topics in physical and human geography. Three lectures; one term  
Prerequisite: GEO 1HS3 or 1HU3

**GEO 3H3S**  
**FIELD CAMP**  
A field camp to introduce students to field equipment and methodologies used by earth and environmental scientists. Most of this course occurs outside the regular academic term, usually the two weeks preceding the start of term in September; details and applications are available in March. Students enrolling in this course must pay both the incidental fees as prescribed by the School and the regular tuition fees.

Prerequisite: GEO 2E03 and registration in Level III or above of an Honours program in the School of Geography and Earth Sciences

**GEO 3I03**  
**APPLIED GIS (GEOGRAPHIC INFORMATION SYSTEMS)**  
Advanced principles and techniques in GIS applied to real-world problems. Two lectures, one lab (two hours); one term  
Prerequisite: A minimum grade of C+ in GEO 2E03

**GEO 3I03N**  
**INTERNSHIP IN EARTH AND ENVIRONMENTAL SCIENCES**  
The integration of academic learning with an employment or a volunteer experience, providing students the opportunity to explore careers and develop linkages between classroom knowledge and professional practice. Students are responsible to arrange a suitable internship and agreement of the supervisor. This course is evaluated on a Pass/Fail basis. Normally, students complete 130 hours of academic work through the duration of the employment or volunteer experience.  
Prerequisite: Registration in Level III or above of an Honours Earth and Environmental Sciences program and permission of the internship coordinator. Completion of SCIENCE 2C00 is strongly recommended. Prerequisite (Beginning 2008-2009): SCIENCE 2C00; and registration in Level III or above of an Honours Earth and Environmental Sciences program; and permission of the internship coordinator.  
Note: Students participating in this course must be authorized to work in Canada (International students must provide proof of work authorization permit). Students intending to enroll in this course must submit an application to the internship coordinator two months prior to registration. Application forms are available from the School of Geography and Earth Sciences main office.

**GEO 3J03**  
**CLIMATE CHANGE AND ECOSYSTEM IMPACTS**  
Past, present and future climate change is examined in terms of the underlying physical and global biogeochemical processes. The Kyoto Protocol and impacts of climate change on ecosystems are examined. Two lectures, one lab (two hours); one term  
Prerequisite: One of BIOLOGY 2F03, GEO 2B03, 2C03  
Antirequisite: GEO 3B03

**GEO 3K03**  
**PETROLOGY**  
Introduction to igneous and metamorphic petrology, including thin section examination of rock suites, use of phase diagrams in petrology, and discussion of petrogenesis. Two lectures, one lab (three hours); one term  
Prerequisite: GEO 2K03

**GEO 3L03**  
**PHYSICAL AND CHEMICAL PROCESSES IN FRESHWATER ENVIRONMENTS**  
A multidisciplinary course emphasizing the interactions of chemical, physical, geographical and biological factors in controlling the chemical distribution, composition and structure of freshwater systems. A mandatory weekend field trip will be held in September. Students enrolling in this course must pay both the incidental fees as prescribed by the School and the regular tuition fees. Two lectures, one lab (four hours); one term  
Prerequisite: GEO 2Q03; and one of GEO 2E03, 2G03, 2W03; and permission of the School of Geography and Earth Sciences. Application must be received by March 31st of the academic year prior to registration. Antirequisite: GEO 4L03

**GEO 3L03**  
**LIMITED ENROLMENT COURSES IN THE FACULTY OF SCIENCE**  
See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**GEO 3M03**  
**ORGANIC CONTAMINANTS IN THE ENVIRONMENT**  
Primary factors controlling the distribution, transport and fate of organic compounds in the environment. Topics include sources, partitioning processes (adsorption, volatilization, dissolution), transport, degradation (biotic, abiotic), and analytical techniques. Two lectures, one lab (three hours); one term  
Prerequisite: GEO 2Q03

**GEO 3Q03**  
**ENVIRONMENTAL RECONSTRUCTION USING STABLE ISOTOPES**  
Principles of stable isotope geochemistry and its application to modern and fossil environmental reconstructions. Topics include isotope stratigraphy and its application to paleoecology, paleoecography and palaeobiology. Two lectures, one lab (three hours); one term  
Prerequisite: GEO 2E03, 2G03
A course that emphasizes a watershed ecosystems approach to inter-related processes. This course develops energy and mass exchange processes in the near surface layer, the lower atmosphere and at the earth-atmosphere interface. Sensitivities of these processes to environmental change and feedback mechanisms are examined. Seminars and individual presentations are emphasized.

One lecture (two hours), one lab (two hours); one term
Prerequisite: GEO 2C03 or 2W03

GEO 4C03 ADVANCED PHYSICAL CLIMATOLOGY

This course develops energy and mass exchange processes in the near surface layer, the lower atmosphere and at the earth-atmosphere interface. Sensitivities of these processes to environmental change and feedback mechanisms are examined. Seminars and individual presentations are emphasized.

One lecture (two hours), one lab (two hours); one term
Prerequisite: GEO 2C03 or 2W03

GEO 4CC3 REVIEW PAPER

The student will conduct a comprehensive review of a selected topic. The review paper is due before the final examination period.

One seminar (two hours); first term
Prerequisite: GEO 3R03 and registration in Level IV of an Honours program in the School of Geography and Earth Sciences
Antirequisite: GEO 4R08

GEO 4D03 ANALYSIS OF TRANSPORTATION SYSTEM

An introduction to the use of models in transportation planning. Topics include data issues, the four-stage approach to modelling transportation systems, discrete choice models and contextual factors such as land use.

Three lectures, one lab (two hours); one term
Prerequisite: GEO 3HD3
Cross-list: CIV ENG 4H03

GEO 4E03 COASTAL ENVIRONMENTS

Coastal systems and their response to sea level change with an emphasis on the Holocene. A mandatory local field trip to collect data followed by laboratory analysis will be included.

Three lectures, one lab (three hours); one term
Prerequisite: GEO 3E03

GEO 4EF3 FIELD COURSE

Detailed study of a particular aspect of physical geography, earth sciences or environmental science in the field. Held immediately after the end of Level III or prior to Fall registration in Level IV; report to be submitted before the end of first term. Various topics and locations: details announced in March. Students enrolling in this course must pay both the incidental fees, as prescribed by the School, and the regular tuition fees.

Prerequisite: Registration in Level III or above of an Honours B.Sc. program in the School of Geography and Earth Sciences

GEO 4F3 TOPOGRAPHY OF FIELD RESEARCH

Selected topics in field research in the Earth Sciences. Topics may vary from year to year, and the timing of the course will depend on the offerings. Details will be posted in the School. Students enrolling in this course must pay the incidental fees, as prescribed by the School, and the regular tuition fees.

Prerequisite: Registration in Level III or above of an Honours B.Sc. program and permission of the instructor

GEO 4F3 may be repeated, if on a different topic, with the permission of the School of Geography and Earth Sciences.

GEO 4G03 GLACIAL SEDIMENTS AND ENVIRONMENTS

The development and movement of glaciers, glacial depositional processes and sedimentary successions in terrestrial, lacustrine and marine environments.

Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 or 2G03
Antirequisite: GEO 3G03

GEO 4H3 FIELD RESEARCH IN THE HUMAN ENVIRONMENT

Selected topics in field research in human geography and environmental studies. Topics may vary from year to year, and the timing of the course will depend on the offerings. Students enrolling in this course must pay the incidental fees, as prescribed by the School, and the regular tuition fees.

Prerequisite: Registration in Level III or above of an Honours program in the School of Geography and Earth Sciences and permission of the instructor

GEO 4H3 ENVIRONMENT AND HEALTH

Models and methods for research on environment and health.

One lecture/seminar (three hours); one term
Prerequisite: One of GEO 3A03, 3H03 or permission of the instructor
Cross-list: HEALTHST 4E03

GEO 4HT3 URBAN PLACES AND URBAN DREAMS

The ideas of planning visionaries and the designs of city planners will be explored as responses to forces shaping cities and regions.

Three lectures; one term
Prerequisite: One of GEO 2H03, 2HY3, 3H03

GEO 4HY3 URBAN DEVELOPMENT AND POLICY ISSUES

Current debates on urban development and policy issues. Emphasis on the political economy of urban change.

Three lectures; one term
Prerequisite: GEO 2HY3 or permission of the instructor
GEO 4HZ3 URBAN HOUSING
The geography of housing, including the effects of land development, construction, municipal planning and public policy on the urban landscape of housing and homelessness.
One lecture/seminar; one term
Prerequisite: GEO 3HZ3

GEO 4I03 ADVANCED GIS (GEOGRAPHIC INFORMATION SYSTEMS)
Advanced methods in GIS using ARC/INFO. Topics will include raster based analysis, working with linear features, surface modelling and AML programming.
Three lectures, one lab (two hours); one term
Prerequisite: GEO 3I03

GEO 4IN3 THESIS INTERNSHIP
The integration of academic learning allowing the student to explore careers and the development of linkages between classroom knowledge and professional practice. Students are responsible to arrange a suitable internship and agreement of the supervisor. Normally, completion prior to GEO 4R06.
This course is evaluated on a Pass/Fail basis.
Normally, students complete 130 hours of academic work through the duration of the employment or volunteer experience.
Prerequisite: Registration in Level IV or above of an Honours program in the School of Geography and Earth Sciences; and permission of the internship coordinator. Completion of SCIENCE 2000 is strongly recommended.
Prerequisite (Beginning 2008-2009): SCIENCE 2000; and registration in Level III or above of an Honours Earth and Environmental Sciences program; and permission of the internship coordinator.
Note: Students participating in this course must be authorized to work in Canada (International students must provide proof of work authorization permit). Students intending to enrol in this course must submit an application to the internship coordinator by March 1 of the academic year prior to registration. Application forms are available from the School of Geography and Earth Sciences main office.

GEO 4J03 BASIN ANALYSIS
Focus on the evolution of sedimentary basins in a global context, based upon their structural and stratigraphic styles. Factors that affect basin evolution such as sea-level change, sediment supply and climate will be discussed. A review of the principles of sequence stratigraphy and its application to geologists, mining and petroleum exploration will be explored.
Two lectures; one lab (three hours); one term
Prerequisite: GEO 2E03, 3E03, 3203

GEO 4K03 ENVIRONMENTAL ISOPOE GEOCHEMISTRY
Application of isotopic analysis to answer current questions in earth sciences, geochemistry, hydrogeology and microbiology. Topics include analytical techniques, principles of isotopic fractionation and applications of light and transition metal isotopes to environmental systems.
Two lectures, one lab (three hours); one term
Prerequisite: GEO 3003

GEO 4L03 SEDIMENTARY GEOROCHRONOLOGY
Geological age determination techniques for the near-surface sedimentary record focusing on the last five million years of earth history. Geochemical perspectives on the fundamentals of radioactive decay and radiation effects in datable minerals.
Two lectures, one tutorial; one term
Prerequisite: GEO 3Q03

GEO 4R06 SENIOR THESIS
Students will select research topics and prepare a thesis either individually or in teams.
One seminar (two hours); two terms
Prerequisite: Registration in Level IV or above in an Honours program in the School of Geography and Earth Sciences; and a SA in the previous two lectures, one tutorial; one term
Prerequisite: GEO 3R03

GEO 4S03 SPATIAL STATISTICS
This course explores concepts and methods in visualisation, exploration and modelling of point pattern, spatially continuous data and area data.
Three hours; one term
Prerequisite: GEO 3S03

GEO 4T03 PLATE TECTONICS AND ORE DEPOSITS
Synthesis of plate tectonics, with application to crustal evolution and genesis of ore deposits.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03 and credit or registration in GEO 3K03

GEO 4W03 HYDROLOGIC MODELLING
Principles of numerical modelling and examination of selected hydrologic models including deterministic, conceptual and statistical models.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2W03 or 3W03

GEO 4WW3 CONTAMINANT HYDROGEOLOGY
Physical and chemical aspects of the fate and transport of contaminants in soils and groundwater, including multiple phase flow.
Two lectures, one lab (two hours); one term
Prerequisite: Credit or registration in GEO 3W03

GEO 4Z03 EXPLORATION GEOPHYSICS
Principles of subsurface exploration using seismic, magnetic and borehole geophysical methods. Applications in geological research and oil and gas exploration.
Two lectures, one lab (two hours); one term
Prerequisite: GEO 2E03, 3V03
Antirequisite: GEO 4Z23
Notes:
1. Not all Gerontology courses may be offered every year. Students are advised to contact the Department of Health, Aging and Society after May 1 to determine which courses will be offered in the following academic year.
2. Gerontology students are strongly recommended to complete GERONTOL 2E13 prior to GERONTOL 3B03.
3. GERONTOL 2B03, 2F03, 2H03, 3F03, 3J03, 3K03, 3L03, 3M03, 3N03 and 3S03 are available for students enrolled in a non-Gerontology program. Space for non-Gerontology students is limited and priority sequence for registration will be:
   a) students completing the Minor in Gerontology
   b) students registered in a Health Studies program
   c) all other students.
4. Students completing a Minor in Gerontology must contact the Department of Health, Aging and Society to request permission for their Fall/Winter Gerontology courses by May 31.

Courses
If no prerequisite is listed, the course is open.

GERONTOL 1A03 AGING AND SOCIETY
Examines issues in aging from a multidisciplinary perspective including such topics as: myths and stereotypes of aging, social ties in later life and the aging of the Canadian population. Provides a deeper understanding of aging and the changing body, mind and self, as well as the meaning of experiences, challenges and opportunities of aging and later life.
Three hours (lectures and discussions); one term
Prerequisite: GERONTOL 1A03 or 1A06
Not open to students with credit in PSYCH 3D03.

GERONTOL 2B03 THE AGING BODY
An examination of age-related changes in biology and physiology of the human body.
Three hours (lectures); one term
Prerequisite: GERONTOL 1A03 or 1A06
Not open to students with credit or registration in KINESIO 4S3.

GERONTOL 2C03 RESEARCH METHODS IN SOCIAL GERONTOLOGY
A systematic investigation of research methods in social gerontology. Topics covered include research design, measurement, techniques of data collection and data analysis. Special attention will be given to how research methods may be applied in the study of aging. This course uses an inquiry based approach.
Three hours (lectures and discussions); one term
Prerequisite: Registration in any Gerontology program
Antirequisite: ANTHROP 2203, CMST 2A03, GEO 2HR3, GERONTOL 3C03, HEALTHST 2B03, SOCIOL 2203

GERONTOL 2D03 SOCIAL ASPECTS OF AGING
Explores social aspects of aging at both the individual and societal levels using a variety of approaches such as life course perspective, political economy, social constructionism, self identity, and a feminist perspective of aging.
Three hours (lectures and discussions); one term
Prerequisite: Registration in any Gerontology program; or admission to the Minor in Gerontology and permission of the Department. (See Note 4 above.)
Antirequisite: GERONTOL 2A03, 2A04

GERONTOL 2E03 COMMUNICATION AND COUNSELLING WITH OLDER ADULTS
Focuses on the unique communication and counselling needs of older adults. Explores various communication issues and approaches and enables students to apply client-centred communication techniques.
Three hours (lectures and discussion, includes experiential components); one term
Prerequisite: Registration in any Gerontology program. (See Note 2 above.)
Antirequisite: GERONTOL 4B03

GERONTOL 2F03 AGING AND HEALTH CARE SYSTEMS
This course examines the available international evidence on the impact of aging on health and long-term care expenditures and organization, as well as the choices various societies are making around issues of aging, health, and long-term care, and the equity issues such choices raise.
Three hours (lectures and discussion); one term
Prerequisite: GERONTOL 1A03 or 1A06
This course may be taken by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited. Priority will be given to students completing a Minor in Gerontology or registered in a Health Studies program.
Not open to students with credit in GERONTOL 3103, if the topic was Aging and Health Care Systems.

GERONTOL 3B03 GERONTOLOGY FIELD OBSERVATION
Directed observation of 40 hours in an approved field setting and a weekly seminar focusing on integration of theoretical knowledge and field experience.
Approximately four hours field observation per week, and two hours weekly seminar; one term
Prerequisite: Registration in Level III or IV of any Gerontology program. (See Note 2 above.)

GERONTOL 3B03 ADVANCED GERONTOLOGY PLACEMENT
A supervised experience linking classroom knowledge to a practice setting. Seminars focus on integration of theoretical knowledge and observation. Placement consists of approximately 60 hours of contact time. Six hours field practicum per week, and two hours bi-weekly seminar; one term
Prerequisite: GERONTOL 3B03 and registration in Level III or IV of any Gerontology program and permission of the instructor. (See Note 2 above.)

GERONTOL 3D03 THE AGING MIND
An examination of psychological aspects of aging: sensation, perception, attention, memory, intelligence, communication, personality, attitudes and mental health.
Three hours (lectures and discussion); one term
Prerequisite: Registration in any Gerontology program; or one of GERONTOL 1A03, 1A06 and registration in any Health Studies program; or admission to the Minor in Gerontology and permission of the Director. (See Note 4 above.)
Not open to students with credit in PSYCH 3D03.

GERONTOL 3E03 INDEPENDENT STUDY IN GERONTOLOGY
The student will select a topic in gerontology for an in-depth investigation under the supervision of a faculty member and write a paper. This investigation could take several forms such as library research, field study, or a supervised experience in an applied setting. The study will normally extend over two terms.
Prerequisite: Registration in Level III or IV of any Gerontology program and permission of the Chair of the Department.
GERONTOL 3E03 may be repeated, if on a different topic, to a total of six units.

GERONTOL 3H03 DIVERSITY AND AGING
Examines issues in gerontology related to the diversity of contemporary western societies. Aspects of diversity such as ethnicity, race, culture, disability, gender, sexual orientation, rural and urban life, and social class will be addressed.
Three hours (lectures and discussions); includes experiential components; one term
Prerequisite: GERONTOL 1A03 or 1A06
This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.
Gerontology 3103 Special Topics in Gerontology

Topics may vary from year to year. Students should consult the Department of Health, Aging and Society prior to registration, concerning topics to be examined.

Three hours (lectures and discussion); one term
Prerequisite: Registration in any Gerontology program

Gerontology 3303 Aging, Work, Retirement and Pensions

An examination of the issues and concepts related to work, retirement and pensions and their implications for aging individuals and society.

Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of any Gerontology program; or with permission of the instructor, registration in a Labour Studies program or Gerontology 1A03 or 1A06 and registration in Level II or above of any program

This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.

Gerontology 3K03 Images of Aging

Explores themes in aging through critical analysis of representations in English literature, selected works of art, music, painting and film, but with emphasis on English literature. Themes may include institutionalization, loss of autonomy, loneliness, intergenerational and other relations.

Three hours (lectures and discussion); one term
Prerequisite: Gerontology 1A03 or 1A06

Not open to students with credit in Gerontology 3103, if the topic was Images of Aging.

This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.

Gerontology 3L03 Long-term Care Homes: Issues and Challenges

Examines issues and challenges of humanizing care for older adults living in long term care homes. Topics include structure and organization of long-term care homes, current trends, policies, programs and gaps. Concepts and approaches to enhance quality of care and quality of life will also be discussed.

Three hours (lectures and discussion); one term
Prerequisite: Gerontology 1A03 or 1A06

This course may be taken by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited. Priority will be given to students completing a Minor in Gerontology or registered in a Health Studies program.

Not open to students with credit in Gerontology 3103, if the topic was Long-term Care Facilities: Issues and Challenges.

Gerontology 3M03 Aging in a Family Context

Examines a diversity of topics related to family relationships and life transitions of older adults from a life course parental perspective. Topics may include diversity in families, marital status and parent status, adult child/parent relationships, sibling ties, and grandparent/grandchild relationships.

Three hours (lectures and discussions, includes experiential components); one term
Prerequisite: Gerontology 1A03 or 1A06

Not open to students with credit in Gerontology 4C03, if the topic was Aging in a Family Context.

This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.

Gerontology 3N03 Aging and Mental Health

This course will examine the topic of mental health from a variety of perspectives. Terms, definitions, theories, assessment protocols and interventions related to mental health in older adults will be explored.

Three hours (lectures and discussion); one term
Prerequisite: Gerontology 1A03 or 1A06

Not open to students with credit in Gerontology 4C03, if the topic was Aging and Mental Health.

This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.

Gerontology 3P03 Research Methods in Social Gerontology II

An advanced systematic investigation of research methods in social gerontology. Topics include research design, measurement, data collection and analysis. Special attention will be given to how research methods may be applied in the study of aging. This course uses an inquiry based approach.

Prerequisite: Gerontology 2C03 and registration in Level III or IV of any Gerontology program

Antirequisite: Health Science 3G03, Sociology 3103, 3003

Gerontology 3S03 Applied Topics in Gerontology

Topics may vary from year to year. Possible topics include care management, ethical issues in aging, interventions for dementia, living environments, or program evaluation.

Three hours (lectures and discussion); one term
Prerequisite: Gerontology 1A03 or 1A06

Gerontology 3S03 may be repeated, if on a different topic, to a total of six units.

This course may be taken as elective credit by undergraduate students registered in a non-Gerontology program. However, enrolment for such students is limited.

Gerontology 4A06 Gerontology Thesis

Provides opportunity for students to integrate knowledge, practice, and research in a project related to their area of interest. Students may work with individual faculty members or community-based supervisors.

Prerequisite: Gerontology 2C03 (or 3C03), 3R03 (or 3G03 or another approved statistics course) and registration in Level IV of any Honours Gerontology program or Gerontology 2C03 (or 3C03), 3R03 (or 3G03 or another approved statistics course) and registration in Level III of any B.A. Gerontology program and permission of the Chair of the Department

Gerontology 4G03 Independent Study in Gerontology II

The student will select a topic in gerontology for an in-depth investigation under the supervision of a faculty member and write a paper. This investigation could take several forms such as library research, field study, or a supervised experience in an applied setting.

Prerequisite: Registration in Level III or IV of any Gerontology program and permission of the supervising instructor

Gerontology 4J03 Aging and Health

Advances the biological, psychological and socio-political factors influencing the health of elderly persons from a broad national and international perspective.

Three hours (problem-based tutorial); one term
Prerequisite: Registration in Level IV of any Honours Gerontology or Honours Health Studies program or registration in Level III of any B.A. Gerontology program

This course may be taken by undergraduate students registered in an Honours Health Studies program. However, enrolment for such students is limited.

Not open to students with credit in Gerontology 4D03, if the topic was Aging and Health.

Gerontology 4J03 Aging and Disability

Multidisciplinary models of successful aging are applied to older adults with mobility, sensory, and cognitive impairments. Psychological, communication, and spiritual issues are emphasized.

Three hours (seminar); one term
Prerequisite: Registration in any Gerontology program and permission of the instructor

Gerontology 4K03 Issues in the Social Aspects of Aging

An advanced exploration of social aspects of aging including gender and health, family relationships and retirement.

Three hours (seminar); one term
Prerequisite: Registration in any Gerontology program

Antirequisite: Sociology 4PP3

Gerontology 4S03 Social Policy and the Aging Population

Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to the elderly.

Three hours (problem-based tutorial); one term
Prerequisite: Registration in Level IV of any Honours Gerontology program or registration in Level III of any B.A. Gerontology program; and permission of the instructor

Antirequisite: Political Science 4A03, Sociology 4A03, 4L03, 4V03
Notes:
1. HEALTHST 2C03, 2D03, 2E03, 2H03, 2HG3 and 3V03 may be taken as electives by students enrolled in Level II and above of a non-Health Studies program.
2. HEALTHST 3D03, 3E03, 3F03, 3H03 and 3HH5 may be taken as electives by students enrolled in Level III and above of a non-Health Studies program. Space for such students is limited.

Courses
If no prerequisite is listed, the course is open.

HEALTHST 1A03 INTRODUCTION TO HEALTH STUDIES
An introduction to key themes and questions concerning health and health care from within social sciences perspectives.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies or Gerontology program
Antirequisite: HEALTHST 1E03, 1S03, HTH SCI 3B03, SOC SCI 1H03
Not open to students in a Nursing or Midwifery program.

HEALTHST 2A03 SOCIAL IDENTITY, HEALTH AND ILLNESS
A critical exploration of the role of class, race, gender, ability and age in patterns of health and illness.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies or Gerontology program
Antirequisite: HEALTHST 2A03
This course may be taken by students enrolled in a Gerontology program. However, enrolment for such students is limited.

HEALTHST 2AN3 THE ANTHROPOLOGY OF FOOD AND NUTRITION
An anthropological perspective on nutrition at the population level. Pre-historic, historic, and contemporary human nutrition, emphasizing links with the environment.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies program
Antirequisite: ANTHROP 2203

HEALTHST 2B03 RESEARCH METHODS IN HEALTH STUDIES
A review of the major methodological approaches used in health studies research. The course will examine methods such as historical, qualitative, quantitative, and narrative.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies program
Antirequisite: ANTHROP 2203, CMST 2A03, GEO 2H3, GERONTOL 2C03, SOCIOI 2203

HEALTHST 2C03 HEALTH ECONOMICS AND ITS APPLICATION TO HEALTH POLICY
Economic analyses of health and health care, with a special emphasis on policy issues in the Canadian health care system.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies program
Cross-list: ECON 2C03
Not open to students registered in an Economics program or with credit in ECON 2G03, 2X03 or 3Z03.
This course is administered by the Department of Economics.

HEALTHST 2D03 MENTAL HEALTH
An examination of mental health and illness from different social, cultural and historical perspectives, including the consideration of changing notions of diagnosis, treatment and prevention.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above of a Health Studies program
Antirequisite: HISTORY 3V03

HEALTHST 2E03 HEALTH, ILLNESS AND THE BODY
This course draws on a range of theoretical perspectives to consider the social construction, regulation, control, and experience of the body as it relates to health and illness.
Three hours (lectures and discussion); one term
Prerequisite: One of HEALTHST 1A03, 1E03, 1S03 or SOC SCI 1H03; and registration in Level II or above

HEALTHST 2HG3 POPULATION, SOCIETIES, AGING AND THE ENVIRONMENT
Differential growth of human populations and their changing age and sex structures with an emphasis on birth and death processes. The connections between population structures and processes and various aspects of environments and societies including aging, are emphasized.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: GEO 2H3, GERONTOL 2HG3
This course is administered by the School of Geography and Earth Sciences.

HEALTHST 3A03 STATE, CIVIL SOCIETY AND HEALTH
This course explores how states, citizens, and civil society act and interact in the definition and pursuit of health.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a Health Studies or Gerontology program
Antirequisite: HEALTHST 3A03
This course may be taken by students enrolled in a Gerontology program. However, enrolment for such students is limited.

HEALTHST 3C03 OCCUPATIONAL HEALTH AND SAFETY
An analysis of issues and problems associated with occupational health and safety in Canada and other industrialized countries. Topics will be examined from social, political, economic, legal and medical perspectives.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a Health Studies or Labour Studies program
Cross-list: LABR ST 3D03
This course is administered by Labour Studies.

HEALTHST 3CC3 HEALTH AND ENVIRONMENT: ANTHROPOLOGICAL APPROACHES
Examination of the ways in which humans alter and cope with their environment. Topics include: health inequalities, nutrition, population, urbanization, resource utilization, and industrial pollution.
Three hours (lectures and discussion); one term
Prerequisite: Three units of Level I Anthropology or HEALTHST 1A03, and registration in Level III or IV of any program. ANTHROP 2E03 is strongly recommended.
Cross-list: ANTHROP 3C03
This course is administered by the Department of Anthropology.

HEALTHST 3G03 DISABILITIES AND CHRONIC ILLNESS
An examination of issues relating to disabilities and chronic illness.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above

HEALTHST 3R03 ETHICAL ISSUES
Ethical issues of current relevance to debates in health and health care. Topics will vary from year to year.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above
Antirequisite: HTH SCI 3L03
Priority will be given to students registered in Health Studies program.

HEALTHST 3F03 SELECTED TOPICS IN HEALTH STUDIES
Topics may vary from year to year.
Three hours (lectures and discussion); one term
Prerequisite: One of HEALTHST 1A03, 1E03, 1S03; and registration in Level III or above
Priority will be given to students registered in Health Studies program.

HEALTHST 3G03 APPLIED METHODS IN HEALTH STUDIES RESEARCH
A survey of applied research methods in Health Studies. The course will consider issues in program evaluation, community needs assessments, and community-based research. Students may be involved in academic placements within the community.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a Health Studies program
Antirequisite: GERONTOL 3R03

HEALTHST 3H03 HEALTH CONSUMERISM
This course examines the meaning of consumerism, consumer health groups, and the impact of consumerism on health care and health policy.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Health Studies program.
HEALTHST 3H3 | GEOGRAPHY OF HEALTH AND HEALTH CARE
An understanding of traditions in health geography and an exploration of the determinants of health including the social environment, the physical environment and health care services.
Three lectures; one term
Prerequisite: GEO 1H3S or 1H3
Cross-list: GEO 3H3
This course is administered by the School of Geography and Earth Sciences.

HEALTHST 3I03 | INDEPENDENT STUDY
Independent research supervised by a faculty member.
One term
Prerequisite: Registration in Level III or above of a Health Studies program and permission of the Chair of Health, Aging and Society.

HEALTHST 3K03 | THE NEW PUBLIC HEALTH; HEALTH PROMOTION AND POPULATION HEALTH IN CANADA
Introduce students to the diverse theoretical, policy, and practical dimensions of health promotion and population health approaches in Canada.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a Health Studies program.

HEALTHST 3M03 | HEALTH POLICY IN A CHANGING WORLD
This course examines major models of health care and policy systems, and the key ideas and instruments that underlie health policy in selected countries such as Canada.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of any Health Studies or Political Science program.
Cross-list: POL SCI 3M03
This course is administered by the Department of Political Science.

HEALTHST 3Y03 | DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA
Explores the history of health and health care in Canada, from the first Western European settlements to the present day.
Two lectures one small group session (one hour); one term
Prerequisite: Registration in Level II or above.
Cross-list: HTH SCI 3Y03, HISTORY 3Y03
This course is administered by the Bachelor of Health Sciences (Honours) program.

HEALTHST 3Y13 | ABORIGINAL COMMUNITY HEALTH AND WELL-BEING
A critical examination of the determinants of health in Aboriginal communities, processes of community revitalization, and recent government policy initiatives.
Three hours (lectures and discussion); one term
Cross-list: ANTHROP 3Y03
This course is administered by the Department of Anthropology.

HEALTHST 4A03 | RESEARCH SEMINAR
Systematic inquiry of a selected topic in a problem-based seminar. Students will identify a health issue, formulate questions, conduct research and present findings.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of any Honours Health Studies program.

HEALTHST 4C03 | REPRESENTATIONS OF HEALTH AND ILLNESS
An exploration of representations of health and illness in the humanities. The focus may vary from year to year, but will examine how health and illness have been represented in literature, art, drama, or music.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of any Honours Health Studies or Gerontology program
This course may be taken by students enrolled in a Gerontology program. However, enrollment for such students is limited.

HEALTHST 4D03 | HEALTH IN CROSS CULTURAL AND INTERNATIONAL PERSPECTIVES
Examination of contemporary issues in health and illness from cross-cultural and international perspectives.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of any Honours Health Studies program.

HEALTHST 4E03 | ENVIRONMENT AND HEALTH
Models and methods for research and policy on environment and health.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of any Honours Health Studies program.
Cross-list: GEO 4H3
This course is administered by the School of Geography and Earth Sciences.

HEALTHST 4F03 | SELECTED TOPICS IN HEALTH STUDIES II
An examination of selected topics in health studies. Topics may vary from year to year.
Three hours (seminar); one term
Prerequisite: Registration in Level IV of any Honours Health Studies program.
HEALTHST 4F03 may be repeated, if on a different topic, to a total of six units.

HEALTHST 4G06 | INDEPENDENT STUDY
Independent research supervised by a faculty member.
Two terms
Prerequisite: Credit or registration in HEALTHST 4A03 and permission of the Chair of Health, Aging and Society.

HEALTHST 4H03 | DIRECTED RESEARCH IN HEALTH STUDIES
Directed study of a research question in Health Studies under the supervision of a faculty member. A report is submitted to the supervisor upon completion of the project.
Three hours (seminar); one term
Prerequisite: HEALTHST 4A03 and registration in Level IV of a Health Studies program; or permission of the Chair of Health, Aging and Society.

HEALTHST 4J03 | NARRATIVES OF ILLNESS
This seminar explores the role that narratives of illness play in describing, shaping and interrogating the experiences of those who are "unwell."
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Health Studies or Level IV Honours Cultural Studies and Critical Theory

HEALTHST 4L03 | THE POLITICS OF CHANGE IN SOCIAL WELFARE
An examination of how social welfare policy establishes the boundary between public and private roles, and how the boundary changes.
Three hours (seminar); one term
Prerequisite: HEALTHST 3M03 or POL SCI 3M03 and registration in Level IV of an Honours Health Studies program.
Cross-list: POL SCI 4L03
This course is administered by the Department of Political Science.

HEALTHSCIENCES

Faculty Note:
This course listing is divided into two parts:
1. Bachelor of Health Sciences (Honours) program courses.
2. Health Sciences courses normally available only to students registered in Engineering (Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering), Nursing (A), (B), (D), (E) or (F) Streams or Midwifery, as applicable.

BACHELOR OF HEALTH SCIENCES (HONOURS) ...

Michael G. DeGroote Centre for Learning and Discovery, Room 3308
Ext. 22815

Assistant Dean, Bachelor of Health Sciences (Honours)

Delsworth G. Harms/ B.Sc., M.Sc. (Queen's), Ph.D. (McMaster), 3M Teaching Fellow

Note:
Detailed course descriptions are available on the program web site at http://www.fhs.mcmaster.ca/bhsc

Courses

HTH SCI 1E06 | INQUIRY
This course will initiate the development of a skill set required for life-long learning, in the context of the study of one or two health care issues. A problem-based course applying principles of scientific inquiry to selected health issues.
Three hours; two terms
Prerequisite: Registration in the B.H.Sc. (Honours) program
Antirequisite: HTH SCI 1E03, 1EE3
Note: Students entering the B.H.Sc. (Honours) program after completion of Level I in another program may be required to complete HTH SCI 2006 at the discretion of the Assistant Dean of the program.
HTH SCI 1G03  PSYCHOBIOLOGY
This course introduces essential components of the central and peripheral nervous systems as well as key regulatory systems. Concepts such as plasticity, homeostasis, compensation and adaptation and ways in which failure of these regulatory systems can lead to illness states are examined.
Two lectures, one tutorial; one term
Prerequisite: Credit or co-registration in BIOLOGY 1A03 or HTH SCI 1106
Not open to students with credit or registration in PSYCH 1A03.

HTH SCI 1106  CELLULAR AND MOLECULAR SYSTEMS AND PRACTICUM IN HEALTH SCIENCES
A critical examination of essential concepts in biological systems with specific reference to cellular and molecular investigations. An opportunity to investigate various elements of core health science courses in a laboratory setting.
Two practicums per week (two hours each); one tutorial; two terms
Prerequisite: Grade 12 U Biology and registration in Health Sciences I Corequisite: SCIENCE 1A00. Students registering in HTH SCI 1106 must also register in SCIENCE 1A00 when completing their registration.
Not open to students with credit or registration in BIOLOGY 1A03.

HTH SCI 1500  PREPARATORY STUDIES FOR BACHELOR OF HEALTH SCIENCES
Students will explore inquiry and small group learning in the context of language proficiency.
Three hours; two terms
Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) program

HTH SCI 2A03  STATISTICS
Basic statistical methods and their application to the analysis of biological and psychosocial data. Manual calculations will be discouraged; use of the computer to do statistical analysis is an explicit goal of this course.
Three lectures, one tutorial; one term
Prerequisite: Registration in Level II or above and Grade 12 Advanced Functions and Introductory Calculus U
Antirequisite: COMMERCE 2Q03, HTH SCI 1F03, STATS 1C03

HTH SCI 2B06  INQUIRY II
This course will initiate the development of a skill set required for life-long learning, in the context of the study of one or two health care issues and will use a problem-based format to introduce major illness categories.
Three hours; two terms
Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) Program
Note: This course is restricted to Level II B.H.Sc. (Honours) transfer students only.

HTH SCI 2E03  INQUIRY II
This course will use an inquiry based format to introduce key concepts in biochemistry, molecular biology and biomedical sciences to understand illnesses such as infectious diseases, metabolic disorders, genetic diseases and cancer.
One term
Prerequisite: HTH SCI 1E03 and 1EE3; or HTH SCI 1E06

HTH SCI 2F03  HUMAN PHYSIOLOGY AND ANATOMY I
An introduction to the principal organs including the endocrine, skin, CNS, and locomotion.
Two lectures, one tutorial; one lab; one term
Prerequisite: Registration in Level II of the B.H.Sc. (Honours) program; or permission of the Assistant Dean, B.H.Sc. (Honours) Program
Antirequisite: BIOLOGY 1J03, 3K03, HTH SCI 1D06, 1H03, 2L03, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1Y33, MED PHYS 4XX3

HTH SCI 2FF3  HUMAN PHYSIOLOGY AND ANATOMY II
A continuation of HTH SCI 2F03 with an examination of the immune, Cardiovascular, Respiratory, Gastrointestinal and Uro-Gential Systems.
Two lectures, one tutorial, one lab; one term
Prerequisite: HTH SCI 2F03
Antirequisite: BIOLOGY 1J03, 3K03, HTH SCI 1D06, 1H03, 2L03, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1Y33, MED PHYS 4XX3

HTH SCI 2G03  EPIDEMIOLOGY
This course examines concepts of health from molecular, clinical, population to societal perspectives.
Two lectures, one tutorial; one term
Prerequisite: STATS 1C03 or registration in Level II of the B.H.Sc. (Honours) program

HTH SCI 2J03  HEALTH PSYCHOLOGY
This course will provide an overview of psychological factors as they influence or result from medical conditions. Topics will include stress, coping, health promoting or compromising behaviours, patient-physician communication, adherence/compliance, pain, heart disease and cancer.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 1G03 or PSYCH 1A03
Corequisite: One of HTH SCI 2A03, PSYCH 2R03 or STATS 1C03
Antirequisite: KINESIOL 2G03

HTH SCI 2K03  CELL BIOLOGY
An inquiry based examination of the relationship between cell structure and function. Students will be required to apply key concepts of cell biology to facilitate their understanding of timely problems in biomedicine.
Tutorials (three hours); Problem Based Learning and Computer Laboratories (three hours; one term)
Prerequisite: CHEM 1A03, HTH SCI 1106; and HTH SCI 2D06 or 2E03
Antirequisite: BIOLOGY 2B03, MOL BIOL 2B03

HTH SCI 2N03  INQUIRY IN BIOCHEMICAL TECHNIQUES
An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops.
One tutorial (one hour) every other week; one lab (four hours) every other week; two terms
Prerequisite: Registration in Level II of the B.H.Sc. (Honours) Biomedical Sciences Specialization
Antirequisite: BIOCHEM 2L06
First offered in 2009-2010

HTH SCI 2P01  PHYSICAL CHEMISTRY
An independent Study Module that will study the thermodynamics of life, chemical and physical equilibria and enzyme kinetics.
Computer-based independent study module to be completed in Level II.
Prerequisite: CHEM 1A03 and registration in Level II of the B.H.Sc. (Honours) Biomedical Sciences Specialization
Antirequisite: CHEM 2P03, 2R03
First offered in 2009-2010

HTH SCI 3D03  GENETICS IN HEALTH SCIENCES
This course examines basic genetic issues including cytogenetics, genetic traits and inheritance as they relate to health care issues.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 2G03, 2F03, 2K03

HTH SCI 3E03  INQUIRY III
This course will cover health issues that are prevalent at certain times in the developmental cycle. Topics will include reproduction, global health, health of children and adolescents, adulthood, and health care issues in the elderly.
One term
Prerequisite: HTH SCI 2D06 or 2E03; and registration in Level III of the B.H.Sc (Honours) program

HTH SCI 3G03  CRITICAL APPRAISAL OF THE MEDICAL LITERATURE
Students learn methods to determine internal validity of various research designs to judge the strength of evidence for the effectiveness of an intervention, a diagnostic test, a screening program, a prognostic or risk factor and of systematic reviews.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 2A03, 2G03

HTH SCI 3GG3  HEALTH SYSTEMS AND HEALTH POLICY
This course reviews how health care is different from other goods and services, how governments have responded to these differences, and how governments make decisions about health care.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 3G03

HTH SCI 3H03  INQUIRY PROJECT
An opportunity to explore one or more specialized areas of Health Sciences in preparation for HTH SCI 4A09 (or 4B06).
One tutorial/seminar session (three hours; one term
Prerequisite: Registration in the B.H.Sc. (Honours) program
Antirequisite: BIOLOGY 4FF3, 4GG9, 4I03, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4E09
Not open to students with credit or registration in BIOCHEM 4P03.

HTH SCI 3I03  INTRODUCTORY IMMUNOLOGY
An introduction to humoral and cellular immunity. The cellular and molecular basis of immunity, and an introduction to immunological techniques.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03
Antirequisite: BIOLOGY 3X03
Two lectures, one tutorial (three hours); one term
Prerequisite: HTH SCI 2K03

HTH SCI 3K03 INTRODUCTORY VIROLOGY
An introduction to the basics of virology. Topics include the structure and composition of viruses, virus replication strategies, virus-host interactions and uses of viruses for medical research.
Three lectures (one hour); one term
Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03; and registration in Level III

HTH SCI 3L03 INTRODUCTION TO BIOETHICS
This course will cover ethical issues that are relevant to biological sciences. Topics will include genetic engineering and cloning, genetic screening, reproductive technology, and the use of behavioural strategies to alter societal behaviours.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 2K03
Antirequisite: HEALTHST 3E03

HTH SCI 3N03 WRITTEN COMMUNICATION IN HEALTH SCIENCES I
This course will explore various genres of written communication. Students will develop their editing and writing skills in a small group.
Three hours; one term
Prerequisite: Registration in Level III or above of the B.H.Sc. (Honours) program and permission of the instructor

HTH SCI 3P06 THERAPEUTIC DRUGS: MOLECULES IN THE MARKETPLACE
A perspective-based approach will be used to explore the interactions between discoveries, industry, regulators, and prescribers that lead to the emergence of new therapeutic drugs as solutions to specific clinical problems.
Three lectures, one tutorial; two terms
Prerequisite: HTH SCI 2F03

HTH SCI 3S03 COMMUNICATION SKILLS
This course offers students a variety of learning experiences that will enable them to better understand the relationship between effective communication and desired health care outcomes. Students will be exposed to evidence-based research, role playing, standardized simulations, and audio-visual reviews.
Three hours; one term
Prerequisite: HTH SCI 2D06 or 2E03; and registration in Level III or above of the B.H.Sc. (Honours) program

HTH SCI 3U03 MEDICAL GENETICS
This course will cover a broad spectrum of genetic disorders; with particular emphasis on inheritance patterns, molecular mechanisms, treatment, and prevention.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 2K03 and registration in Level III or above

HTH SCI 3Y03 RESEARCH AND EXPERIMENTAL DESIGN
Analytical review of fundamental experiments with a focus on experimental design, employing sample data sets to solve experimental problems with an emphasis on how to approach the problem. This course will be a precursor to the BIOCHEM 4F09 senior thesis.
Two lectures, one tutorial (two hours); one term
Prerequisite: HTH SCI 2N03
First offered in 2010-2011.

HTH SCI 3W03 SYSTEMS BIOLOGY
A systems-based approach to studying the cell and integration of cellular processes with a critical appraisal of scientific literature. Working in small groups, students will develop an internet site to examine various topics in cellular biology.
Three lectures/tutorials; one term
Prerequisite: HTH SCI 2N03
First offered in 2010-2011.

HTH SCI 3X02 GENOMIC INFORMATION
Use of computers, graphics, .tif files, Pymol, NCBI databases and ExpASy. Each class is a combination of lecture and hands-on tutorial in a computer laboratory.
Three lectures/tutorials in a computer lab; second term.
Prerequisite: HTH SCI 2N03
First offered in 2010-2011.

HTH SCI 3Y03 DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA
This course explores the history of health and health care in Canada, from the first European settlements to the present day.
Two lectures, one small group discussion (one hour); one term
Prerequisite: Registration in Level II or above
Cross-list: HEALTHST 3Y03, HISTORY 3Y03

HTH SCI 3Z01 RESEARCH SEMINARS
Students attend six research seminars from a designated list in Biochemistry, Immunology and Neurology and write a one to two page report on each. Two of the six seminars may be graduate student seminars from Medical Sciences or Biochemistry and Biomedical Sciences.
Six seminars; two terms
Prerequisite: HTH SCI 2N03
First offered in 2010-2011.

HTH SCI 4A03 GROUP DYNAMICS AND PROCESSES
This course will offer both a theoretical and experimental introduction to group dynamics and processes. Learning will be facilitated in large and small groups.
One term
Prerequisite: Registration in Level IV of the B.H.Sc. (Honours) program and permission of the instructor

HTH SCI 4A09 THESIS
A thesis-based research project conducted under the direction and supervision of a member of the Faculty. Arrangements to enrol in HTH SCI 4A09, including agreement of the supervisor and a co-supervisor, must be made before the end of March in Level III.
Prerequisite: Registration in B.H.Sc. (Honours) program and permission of B.H.Sc. (Honours) Program Office
Antirequisite: BIOLOGY 4F03, 4G09, 4I03, HTH SCI 4B06, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4E09
Not open to students with credit or registration in BIOCHEM 4P03.

HTH SCI 4B06 SENIOR PROJECTS
A selection of information-based research projects conducted under the supervision of one or more members of the Faculty. Arrangements to register in HTH SCI 4B06 including agreement of supervisor must be made before the end of March in Level III.
Prerequisite: Registration in B.H.Sc. (Honours) program and permission of B.H.Sc. (Honours) Program Office
Antirequisite: BIOLOGY 4F03, 4G09, 4I03, HTH SCI 4A09, MOL BIOL 4R09, PHARMAC 4F09, PSYCH 4D06, 4D09, 4E09
Not open to students with credit or registration in BIOCHEM 4P03.

HTH SCI 4B3 NEUROIMMUNOLOGY
This course will examine immune-brain communication, immune molecules and their signaling pathways, and the role of the immune system in normal brain function and CNS disease.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 2B03 or HTH SCI 2K03

HTH SCI 4D03 SPECIAL TOPICS IN HEALTH SCIENCES
This course provides an opportunity for individual or small groups to integrate concepts from their undergraduate courses. Sessions arranged individually or in small groups; one term
Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) program
First offered in 2010-2011.

HTH SCI 4E03 EDUCATION PRACTICUM IN HEALTH SCIENCES
An opportunity to explore pedagogy as it relates to best practice in education. Sessions arranged individually or in small groups; two terms
Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) program

HTH SCI 4F03 CLINICAL PRACTICE ENVIRONMENT
This course will include one or more placements for students. In conjunction with these placements, students will be required to compile a report on one or more health care delivery environments. Students must arrange their clinical placement.
One term
Prerequisite: HTH SCI 3H03 and permission of the Assistant Dean, B.H.Sc. (Honours) program
HTH SCI 4F03 may be repeated, if on a different topic, to a total of six units.

HTH SCI 4G3 COMPLEX ADAPTIVE SYSTEMS
This course is an opportunity to think about how people learn and change in all sorts of environments. The course itself will be an experiment in applying CAS theory to issues such as assessment, learning objectives, evidence, feedback and group process.
Three hours; one term
Prerequisite: Registration in Level III or above of the B.H.Sc. (Honours) program and permission of the instructor
HTH SCI 4113 ADVANCED TOPICS IN IMMUNOLOGY
This course will build on knowledge of the immune system and focus on the immune system in disease: allergy, inflammation, autoimmunity, immune deficiency, malignancy and cancer immunotherapy.
Two lectures, one tutorial; one term
Prerequisite: BIOLOGY 3X03 or HTH SCI 3103
Antirequisite: BIOLOGY 4I13

HTH SCI 4J03 BIOCHEMICAL IMMUNOLOGY
This advanced course applies problem-based learning to immunological problems. Topics concern development of immunocassays, resistance to infection and immunity in health and disease.
One session (three hours); one tutorial; one term
Prerequisite: Either BIOLOGY 3X03 or HTH SCI 3103, and either BIOLOGY 2E03 or HTH SCI 2K03, and either BIOLOGY 2C03 or HTH SCI 3D03, and HTH SCI 4I13; or permission of the instructor.
Cross-list: BIOCHEM 4J03, MOL BIOL 4J03

HTH SCI 4K03 HUMAN PATHOPHYSIOLOGY
The course is designed to allow participants to think and solve problems in the area of physiology, pathophysiology and anatomy.
One lecture, one tutorial, one lab; one term
Prerequisite: HTH SCI 2F33 or permission of the instructor

HTH SCI 4L03 MODEL SYSTEMS
Examining the use of human, animal and cell model systems in research through investigation of primary research.
One lecture or workshop (three hours); one term
Prerequisite: HTH SCI 3W03
First offered in 2011-2012.

HTH SCI 4N33 WRITTEN COMMUNICATION IN HEALTH SCIENCES I
This course will be an advanced course in written communication, building on knowledge gained in Written Communication I. Students will explore and hone their writing skills in various forms.
Three hours; one term
Prerequisite: HTH SCI 3N03 and permission of the instructor

HTH SCI 4O03 PRINCIPLES OF VIRUS PATHOGENESIS
Current theories and knowledge on mechanisms that relate to virus pathogenesis and evasion of host cell responses.
Two lectures, one tutorial; one term
Prerequisite: HTH SCI 3I03 or 3K03; and registration in Level III or above of the B.H.Sc. (Honours) program or permission of the instructor

HTH SCI 4T03 CURRENT RESEARCH INITIATIVES
An opportunity to explore current research initiatives within the McMaster community on a variety of topics. Both alumni from the B.H.Sc. (Honours) program and graduate students at McMaster will offer sessions to explain and discuss their current research and academic experiences.
Three hours; two terms
Prerequisite: Registration in Level III or above of the B.H.Sc. (Honours) program or permission of the instructor

HTH SCI 4U05 CURRENT RESEARCH INITIATIVES
An opportunity to explore current research initiatives within the McMaster community on a variety of topics. Both alumni from the B.H.Sc. (Honours) program and graduate students at McMaster will offer sessions to explain and discuss their current research and academic experiences.
Three hours; two terms
Prerequisite: Registration in Level III or above of the B.H.Sc. (Honours) program or permission of the instructor

HTH SCI 4V03 CONTROL OF HUMAN MOVEMENT
The topics in this course will include basic neurophysiology and control of sensation, proprioception, reflex and voluntary movement. Throughout the course, theories underlying motor control of voluntary movement will be studied in healthy and neurologically impaired populations.
Two lectures, one lab; one term
Prerequisite: HTH SCI 2F03, 2FF3

HTH SCI 4W03 SPECIAL TOPICS IN HEALTH SCIENCES II
This course provides an opportunity for individuals or small groups to integrate concepts from their undergraduate courses.
Sessions arranged individually or in small groups; one term
Prerequisite: Permission of the Assistant Dean, B.H.Sc. (Honours) program
HTH SCI 4W03 may be repeated, if on a different topic, to a total of six units.

HTH SCI 4X03 COLLABORATION AND PEER TUTORING
An important part of our responsibility in the program is to develop a learning community that incorporates the concepts of collaboration, peer tutoring and lifelong learning. This course will consist of three units to be taken over four years and will encourage these activities, both formally and informally.
Prerequisite: Registration in Level IV of the B.H.Sc. (Honours) program
Antirequisite: BIOLOGY 3Q03, 3Q03, INQUIRY 1SC3, 3S03, SCIENCE 2L03, 3S03, SOC SCI 2L03.

HTH SCI 4Y03 SCIENCE, CULTURE AND IDENTITY
Through selected readings and discussion, this course will explore some critiques of science and will appraise the challenge they present to scientific authority. The course will culminate in the presentation of a research project on a question developed by students individually or in groups.
Three hours; one term
Prerequisite: Registration in Level II or above of the B.H.Sc. (Honours) program

HEALTH SCIENCES
(ENGINEERING, MIDWIFERY, NURSING) ...

Note:
The following Health Sciences courses are normally available only to students registered in Engineering (Chemical Engineering and Bioengineering) or Electrical and Biomedical Engineering, B.Sc. (A), (B), (D), (E) or (F) Streams or Midwifery, as applicable.

Courses

HTH SCI 1A1A3 HUMAN BIOCHEMISTRY I
Introduction to proteins, DNA, RNA, chromosomes and their building blocks; gene expression; proteins, carbohydrates and fats as fuels in the production of energy for living, including nutritional aspects.
Lectures and problem-based tutorial (three hours); one term
Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream; or permission of the instructor
Antirequisite: HTH SCI 1A06, 1CC7

HTH SCI 1B1B3 HUMAN BIOCHEMISTRY II
DNA replication, transcription and translation; recombinant DNA technology; and the molecular biology of inherited and acquired diseases.
Lectures and problem-based tutorial (three hours); one term
Prerequisite: HTH SCI 1AA3 and registration in Level I of the B.Sc.N. (A) or (D) Stream; or permission of the instructor
Antirequisite: HTH SCI 1A06, 1CC7

HTH SCI 1C06 SOCIAL AND CULTURAL DIMENSIONS OF HEALTH CARE
This course will increase the students' understanding of individuals, social and cultural groups in relation to health and health care. Special emphasis will be placed on understanding the social and cultural meanings of illness and birth to women and their families, in particular cultural communities within Ontario.
Lectures/tutorials; two terms
Prerequisite: Registration in the Midwifery Education program

HTH SCI 1CC7 INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE I
Through a small group, self-directed problem-based learning format, students will apply principles of cellular biology, biochemistry and human anatomy and physiology essential to the assessment and understanding of health care problems.
Lecture (two hours), one problem-based tutorial (two hours), one online tutorial, self-study; one term
Prerequisite: Registration in Level II of the B.Sc.N. (E) Stream or Level III of the B.Sc.N. (B) Stream
Antirequisite: HTH SCI 1A06, 1AA3, 1BB3,1ZZ4

HTH SCI 1D06 ANATOMY AND PHYSIOLOGY
This course covers basic concepts of human structure and function, genetics and embryology through lectures, demonstrations and appropriate laboratory assignments.
Lectures/tutorial; two terms
Prerequisite: Registration in the Midwifery Education program
Antirequisite: BIOLOGY 1J03, 3U03, 3U03, HTH SCI 2F03, 2FF3, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1YY3, MED PHYS 4X03
HITH SCI 1H06  HUMAN PHYSIOLOGY AND ANATOMY
A study of anatomy and physiology of the communication and locomotion systems and the systems maintaining homeostasis.
Lecture (two hours), lab or tutorial (three hours); two terms
Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream or permission of the instructor.
Antirequisite: BIOLOGY 1J03, 2A03, HITH SCI 1B07, 1H03, 1HH3, 2F03, 2FF3, 2L03, 2LL3, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1YY3, MED PHYS 4XX3

HITH SCI 1J03  LIFE SCIENCES FOR CLINICAL PRACTICE
This course provides an overview of basic concepts relating to chemistry, biochemistry and microbiology. Content areas will include practical applications of clinical chemistry, specimen collection, related disease entities and pathologies, and the significance of laboratory values.
One lecture (three hours) one lab (two hours); one term
Prerequisite: Registration in the Midwifery Education program
Corequisite: HITH SCI 1D05
Antirequisite: MIDWIF 1C03

HITH SCI 1Z04  HUMAN ANATOMY
Study of gross anatomy providing an overview of tissues and organs of the major body systems. This self-study course is required for Nursing students who have been granted advanced credit for all of the required physiology.
Independent study (two hours lecture equivalent/four hours lab equivalent); one term
Prerequisite: Registration in the B.Sc.N. program and permission of the instructor

HITH SCI 2B03  HEALTH SCIENCE AND SOCIETY
This course is concerned with the biological, environmental, behavioural, social and economic factors that determine health needs of the population.
The major components to the course are: measuring health status, the determinants of health, and the provision of health care services. Offered by Web CT/Print Management. The Program reserves the right to cancel the course due to low enrolment.
Prerequisite: Registration in Level II of the Midwifery Education program

HITH SCI 2C07  INTEGRATED BIOLOGICAL BASES OF NURSING PRACTICE II
Students will integrate concepts of pathophysiology and will include principles of microbiology and pharmacology essential to the assessment and understanding of health care problems.
Lecture (two hours), one problem-based tutorial (two hours), one journal club (two hours), one on-line tutorial; one term
Prerequisite: HITH SCI 1C07
Antirequisite: HITH SCI 2AA2, 2B08, 2BB2, 2CC2, 2DD2, 2HH3

HITH SCI 2H03  INTRODUCTORY PHARMACOLOGY
An examination of the administration, distribution, action, metabolism and elimination of drugs generally and as related to specific systems.
Lecture (two hours), tutorial or clinical problem (three hours); one term
Prerequisite: HITH SCI 1A03, 1BB3 (or 1A06), 1H03, 1HH3 (or 1H06) and registration in Level II of the B.Sc.N. (A), (D) or (F) Stream; or permission of the instructor.
Antirequisite: HITH SCI 2B08, 2C07, 2DD2

HITH SCI 2H13  INTRODUCTORY MICROBIOLOGY
An examination of the interactions of microbes in the human body including action, responses, treatment and prevention.
Lecture (two hours), tutorial or lab or clinical problem (three hours); one term
Prerequisite: HITH SCI 1A03, 1BB3 (or 1A06), 1H03, 1HH3 (or 1H06) and registration in Level II of the B.Sc.N. (A), (D) or (F) Stream; or permission of the instructor.
Antirequisite: HITH SCI 2B08, 2C07, 2CC2

HITH SCI 2I03  SOCIAL ASPECTS OF REPRODUCTION
An interdisciplinary course exploring birth and reproduction. Topics may include: social determinants of reproductive health, fertility and birthing rituals, reproductive ethics, policy and technologies.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: HEALTHST 2H03, WOMEN ST 2H03
This course is administered by Women's Studies.

HITH SCI 2L03  ANATOMY AND PHYSIOLOGY II: COMMUNICATION
An examination of structure-function relationships in the human body systems that communicate with each other or the environment. The systems covered include: endocrine, central nervous system, hearing, taste, smell, vision, autonomic nervous system, skin, peripheral nervous system, and locomotion (musculo-skeletal).
Two lectures (one hour), clinical problem presentation (one hour), one lab (two hours); one term
Prerequisite: Registration in Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering
Antirequisite: BIOLOGY 1J03, HITH SCI 1D06, 1H06, 1HH3, 2F03, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1YY3, MED PHYS 4XX3

HITH SCI 2L13  ANATOMY AND PHYSIOLOGY II: HOMEOSTASIS
An examination of structure-function relationships in the human body systems that are responsible for maintaining normal internal physiological conditions despite a changing environment. The systems covered include: cardiovascular, respiratory, immunology, gastrointestinal, nutrition, uro-genital, and renal.
Two lectures (one hour), clinical problem presentation (one hour), one lab (two hours); one term
Prerequisite: Registration in Chemical Engineering and Bioengineering or Electrical and Biomedical Engineering
Antirequisite: BIOLOGY 1J03, HITH SCI 1D06, 1H06, 1HH3, 2F03, KINESIOL 1A03, 1A06, 1AA3, 1X06, 1Y03, 1YY3, MED PHYS 4XX3

HITH SCI 3B03  HEALTH, SCIENCE AND SOCIETY
This course provides an introduction to a number of major health issues including determinants of health and political, economic and social factors that influence the organization of health care systems.
Nine lecture/problem-based tutorials (three hours each), guided self-study (two hours); one term
Prerequisite: Registration in Level III of the B.Sc.N. (A), (D), (E) or (F) Stream; or Level III or IV of the B.Sc.N. (B) Stream; or registration in Level II of the Midwifery Education program; or permission of the instructor
Antirequisite: HITH SCI 3A03, 3L02, 3M03

HITH SCI 3F03  INDEPENDENT STUDY IN A HEALTH SCIENCES TOPIC
A non-clinical course in which special topics will be considered in depth under the supervision of a faculty member. The plan of study must be negotiated with the faculty member.
Lecture or equivalent (three hours); one term
Prerequisite: Registration in Level II or above of any stream of the B.Sc.N. program; and permission of the instructor; and permission of the Coordinator of Studies (Nursing)
Students will not normally be permitted to apply more than one independent study course in the Health Sciences toward their elective requirements for the B.Sc.N. program.

HITH SCI 4D06  ADVANCED LEADERSHIP AND MANAGEMENT IN HEALTH CARE ORGANIZATIONS
This advanced course builds upon HITH SCI 4E06 content. It integrates theories and research in leadership and management to enhance health care provider's knowledge of key issues in today's workplace. Offered in tutorial or distance format.
Tutorial or equivalent (four hours), independent study in an organization (six hours); one term
Prerequisite: HITH SCI 4E06
Antirequisite: NURSING 4D06
HEALTH STUDIES

(SEE HEALTH, AGING AND SOCIETY)

HEBREW

(SEE RELIGIOUS STUDIES, HEBREW)

HISPANIC STUDIES

(SEE LINGUISTICS AND LANGUAGES, HISPANIC STUDIES)

HISTORY

WEB ADDRESS: http://www.humanities.mcmaster.ca/~history/

Chester New Hall, Room 619

Ext. 24270

Faculty as of January 15, 2007

Chair
Kenneth Cruikshank

Distinguished University Professor
John C. Weaver/B.A. (Queen's), M.A., Ph.D. (Duke)

Professors

J. Michael Gauvreau/B.A. (Laurentian), M.A., Ph.D. (Toronto)

Bernice M. Kaczynski/B.A. (Pittsburgh), MPhil., Ph.D. (Yale)

H. V. Nelies/B.A., M.A., Ph.D. (Toronto)

L. R. Wilson Professor in Canadian History

Adjunct Professor
John A. Sainsbury/B.A. (Cambridge), M.A., Ph.D. (McGill)

Associate Professors
Virginia Akman/B.A. (Allegany College), M.L.S. (California-Berkeley), M.A., Ph.D. (Toronto)

David P. Barrett/B.A., M.A., Ph.D. (London)

Kenneth Cruikshank/B.A. (Carleton), M.A., Ph.D. (York)

Ruth Frager/B.A. (Rochester), M.A., Ph.D. (York)

Evan W. Haley/B.A. (Dartmouth), Ph.D. (Columbia)

Stephen Heathorn/B.A. (Toronto), M.A. (McMaster), Ph.D. (Toronto)

Martin Horn/B.A. (Western Ontario), M.A., Ph.D. (Toronto)

Stephen Street/B.S. (Bates), M.A. (SUNY-Stonybrook), M.A. (California-Riverside), Ph.D. (Connecticut)

Pamela Swett/B.A. (Bryn Mawr), M.A., Ph.D. (Brown)


David Wright/B.A., M.A. (McGill), D. Phil. (Oxford)

Assistant Professors
Megan Armstrong/B.A. (Toronto), M.A. (Queen's), Ph.D. (Toronto)

Karen Balcom/B.A. (Carleton), M.A. (Dalhousie), Ph.D. (Rutgers)

Juanita De Barros/B.A. (Toronto), M.A., Ph.D. (York)

Michael Egan/B.A., M.A. (Simon Fraser), Ph.D. (Washington State)

Bonny Ibawoch/B.A. (Benel), M.A. (Ibadan), Ph.D. (Dalhousie)

Tracy McDonald/B.A., M.A., Ph.D. (Toronto)

Adjunct Assistant Professors
Andrew Bone/Bertrand Russell Editorial Project, B.A. (Birmingham), M.A., Ph.D. (McMaster)

Kathleen E. Garayl/Archivist, Mills Library, B.A. (East Anglia), M.A. (McMaster), Ph.D. (Toronto)

Associate Members
Nancy B. Bouchier/Kinesiology) B.A., M.A., Ph.D. (Western Ontario)

Peter J. George/Economics) C.M., B.A., Ph.D. (Toronto), D.U. (Ottawa), D. Hon. C. (Lviv), D.Litt. (Nipissing), LLD. (Toronto)

Richard S. Harris/Geography and Earth Sciences) B.A. (Cambridge), M.A. (Ohio State), Ph.D. (Queen's)

Kenneth H. Norrie/Economics) B.A. (Saskatchewan), M.Phil., Ph.D. (Yale)

HISTORY

HTH SCI 4E06
INTRODUCTION TO HEALTH CARE LEADERSHIP/MANAGEMENT

Theories and principles of leadership and management are applied to the health care disciplines. Given in both problem based tutorial format and through distance education. Enrolment in tutorial format is limited. Problem based tutorial or equivalent (four hours); independent study at a clinical site (six hours); one term

Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor

Antirequisite: NURSING 4E06

HTH SCI 4F03
INTEGRATIVE LEADERSHIP PROJECT

Students integrate learning and demonstrate a leadership role in addressing a real health care issue. Students work with both a tutor and a health care professional to address a mutually agreed upon leadership issue in the workplace.

Three hours (seminar and clinical lab); one term

Prerequisite: HTH SCI 4F06, 4D05, 4I03, 4H05, 4Z03

Antirequisite: NURSING 4F03

HTH SCI 4H03
ISSUES IN INTERNATIONAL AND INTERCULTURAL HEALTH

An introduction to health issues in a rural Canadian and international context including theories of: development; political economy; medical and social anthropology; and intercultural health care practice. Lecture/problem-based tutorials (three hours); one term

Prerequisite: HTH SCI 3B03, and registration in Level III or IV of any stream of the B.Sc.N. program; and permission of the instructor

Antirequisite: COLLAB 4H03, NURSING 4H03

HTH SCI 4H03
QUALITY MANAGEMENT IN HEALTH CARE ORGANIZATION

This course focuses on the role of leadership in quality management in health care organizations. Theories, concepts and best practices are utilized to examine issues in the health care work environment. Concepts include patient safety, safety culture, benchmarks and scorecards, program evaluation and risk/ utilization management.

Three hours (lecture/seminar); one term

Prerequisite: Registered Nurse and permission of the instructor

Antirequisite: NURSING 4H03

HTH SCI 4I03
LEADING EFFECTIVE TEAMS IN HEALTH CARE ORGANIZATIONS

This course introduces health care providers to the concepts and dynamics of teams within health care organizations. Theories and concepts related to leadership, communication and health systems are applied in the current work environment. Distance education and tutorial formats.

Problem-based tutorial or equivalent (three hours); one term

Prerequisite: Health care professional and permission of the instructor

Antirequisite: NURSING 4I03

HTH SCI 4L02
RESEARCH PROJECT

Students participate in a research study. Concepts of research design, implementation and analysis and dissemination of results are studied. Approximately two hours per week; two terms

Prerequisite: HTH SCI 3C04 and registration in Level IV of any stream of the B.Sc.N. program; permission of the instructor

Antirequisite: HTH SCI 4L04

HTH SCI 4S03
POVERTY AND HOMELESSNESS

This course investigates poverty and homelessness and the disproportionate number of health and social issues facing marginalized groups. It explores the issues of poverty in Canada and places specific emphasis on poverty in our local community of Hamilton Wentworth. Tutorial groups, independent reading (three hours), individual or group service learning projects (three hours), one term

Prerequisite: HTH SCI 3S03 and registration in Level III or IV of any stream of the B.Sc.N. program; or permission of the instructor

Not open to students with credit in NURSING 4G03 if the topic was Poverty and Homelessness.

HTH SCI 4Z03
HEALTH SCIENCE CONFLICT MANAGEMENT IN HEALTH CARE ORGANIZATIONS

An introduction to the types and processes of conflict in health care organizations. Exploration and application of theories and principles of conflict and negotiations to situations in the health care environment. Offered in both tutorial and distance format.

Tutorial (three hours), one term

Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor

Antirequisite: NURSING 4Z03
Department Notes:
1. The Department of History offers five Level I courses, each of which is designed to introduce the student to the study of History at the university level. Six units of Level I History are required for those students who anticipate entering B.A. or Honours programs in History. However, students will be admitted to programs in History if they have completed CLASSICS 1M03, (cross-listed as HISTORY 1M03) as part of the six units required for admission into the programs. Students may take only 12 units of these Level I History courses.

2. Not every History course listed in this Calendar is offered every year. Department I. The Department of History offers five Level I courses, each of which is

3. Enrolment in any Level IV History seminar will be limited to approximately 15 students. Students must be registered in an Honours History program to enrol in any Level IV History seminar. Preference will be given in order to students according to the following categories: Level IV Honours History and Combined Honours in History; Level III Honours History and Combined Honours in History; Level III History and others (with special permission of the Department).

4. Students interested in Ancient History are advised to examine the courses in Classics offered by the Department of Classics. The following course may be applied towards degree requirements in History at Levels II and III: KINESIOL 3A03 History of Exercise and Sports Medicine

Courses
If no prerequisite is listed, the course is open.

HISTORY 1A03
EUROPE FROM THE RENAISSANCE TO THE FRENCH REVOLUTION
An examination of the principal themes and issues of European history from the Renaissance to the French Revolution. Three hours (lectures and tutorials); one term

HISTORY 1A03
EUROPE FROM THE FRENCH REVOLUTION TO THE END OF THE SECOND WORLD WAR
An examination of the principal themes and issues of European history from the French Revolution to the end of the Second World War. Three hours (lectures and tutorials); one term

HISTORY 1B03
THE AMERICAS AND THE WORLD
An examination of the Americas from European contact into the twentieth century. Three hours (lectures and tutorials); one term

HISTORY 1BB3
GLOBAL HISTORY IN THE TWENTIETH CENTURY
An examination of global interactions of peoples and nations since 1900. Three hours (lectures and tutorials); one term

HISTORY 1M03
HISTORY OF GREECE AND ROME
The history of Greece and Rome from the Bronze Age to the fall of Rome based on literary, documentary and archaeological evidence. Two lectures, one tutorial; one term

Cross-list: CLASSICS 1M03
Antirequisite: CLASSICS 1L03, 1L13, HISTORY 1L03, 1L13
This course is administered by the Department of Classics.

HISTORY 2A03
THE MODERN CARIBBEAN
An examination of the nineteenth- and twentieth-century Caribbean, focusing on the end of slavery; the arrival of indentured Asian immigrants; pan-Africanism; anti-colonial movements and revolution. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 2A03

HISTORY 2CC3
THE MEDIEVAL WORLD 400-1050
The Early Middle Ages: The barbarian kingdoms to the feudal monarchies. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2L06

HISTORY 2D03
EARLY LATIN AMERICA
From the Amerindian cultures to 1823. This course will deal with the pre-Columbian civilizations, the Spanish conquest and its consequences until the wars for independence from Spain. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2XX3

Alternates with HISTORY 2G03.

HISTORY 2D03
THE MEDIEVAL WORLD 1050-1400
The High and Late Middle Ages: Themes in European history, society and culture. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 2106

HISTORY 2EE3
SCIENCE AND TECHNOLOGY IN WORLD HISTORY
An introduction to the manner in which science and technology influence society and how society influences science and technology, paying particular attention to the transfer of knowledge and machines over time and between cultures. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

HISTORY 2F03
WOMEN IN EUROPE TO 1650
An exploration of the history of European women and gender during the medieval and early modern periods, focusing on the political, social, spiritual, intellectual and economic realms. Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: WOMEN ST 2F03

Antirequisite: HISTORY 2BB6, WOMEN ST 2B06

HISTORY 2G03
MODERN LATIN AMERICA SINCE 1820
Liberalism, nationalism, militarism and the various revolutions will be covered, as well as the U.S. role in Latin America and the Caribbean. Three hours; one term

Prerequisite: Registration in Level II or above

Antirequisite: HISTORY 3Y3, PEACE ST 2G03, 3G03

Alternates with HISTORY 2D03.

HISTORY 2H43
MEDITERRANEAN ENCOUNTERS 1500-1800
This course examines the Mediterranean region as a zone of intense cultural interaction. Particular emphasis will be given to the interaction between Christian, Jewish and Islamic societies. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: RELIG ST 2F03

HISTORY 2I13
MODERN GERMANY
This course examines the complexities of German social and political history since 1819, including World War One, Third Reich, cold war division, questions of national identity and the peaceful revolution of 1989. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Cross-list: PEACE ST 2I13

Antirequisite: HISTORY 3C03, PEACE ST 3G03

HISTORY 2J03
AFRICA TO 1900
Survey of the political, social and economic history of Africa including the evolution of early human cultures, the rise and fall of civilizations and the contact between Africans and Europeans. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

HISTORY 2J13
AFRICA SINCE 1900
Survey of the political, social and economic history of Africa including the partitioning of the continent, the practices of European imperialism, independence and the process of national building. Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

HISTORY 2K03
THE SOCIETY OF GREECE AND ROME
A description and analysis of selected aspects of the social life of Greece and Rome. Attention will be given to subjects such as work and leisure, war and the warrior, slavery, marriage and family and the role of women. Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2K03

This course is administered by the Department of Classics.

HISTORY 2L03
HISTORY OF ANCIENT GREECE
Greece from the rise of the city-state to the Peloponnesian War, with particular attention to political, social and cultural development in the light of literary and archaeological evidence. (No Greek or Latin required.) Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2L03

Antirequisite: CLASSICS 2L03, HISTORY 2L03

Alternates with HISTORY 2L03.

This course is administered by the Department of Classics.
HISTORY 2L3 HISTORY OF ANCIENT GREECE II
Greece from the Peloponnesian War to the coming of Rome, with particular attention to political, social and cultural development in the light of literary and archaeological evidence. (No Greek or Latin required.)
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 2L3
Antirequisite: CLASSICS 2L03, 3L3, HISTORY 2L03, 3L3
Alternates with HISTORY 2L3.
This course is administered by the Department of Classics.

HISTORY 2L3 HISTORY OF ANCIENT ROME I
Rome from its early development to the dictatorship of Caesar, with particular attention to the political, military and social developments in the light of literary and archaeological evidence. (No Greek or Latin required.)
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 2L3
Antirequisite: CLASSICS 2L03, HISTORY 2L03
Alternates with HISTORY 2L3.
This course is administered by the Department of Classics.

HISTORY 2M3 EARLY MODERN BRITAIN, 1500-1800
A thematic study of British culture, society and governance between 1500 and 1600 A.D.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: HISTORY 2N06

HISTORY 2M3 BRITAIN IN THE MODERN ERA, 1800-2000
The political, social, economic and cultural history of Britain over the last two centuries, with particular attention to the domestic impact of the British imperial experience.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: HISTORY 2N06

HISTORY 2P3 HISTORICAL INQUIRY
An introduction to the systematic investigation of historical issues and problems in a small class setting. Topics will vary, representative of the interests of the department's teaching staff.
Three hours (seminar); one term
Prerequisite: Registration in Level II of an Honours program in History or permission of the instructor

HISTORY 2Q3 IMPERIAL RUSSIA
A survey of Russian history from Peter the Great to the Revolutions of 1917.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: HISTORY 3H06

HISTORY 2Q3 THE SOVIET UNION
A history of the Soviet Union from 1917 to the present with an emphasis on social history, culture and identity.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: HISTORY 3H06

HISTORY 2R3 U.S. HISTORY TO THE CIVIL WAR
A survey of the political, cultural, social and economic development of the United States to 1867, from the colonial and revolutionary era to the Civil War and Reconstruction.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 2RR3 U.S. HISTORY SINCE THE CIVIL WAR
A survey of the political, cultural, social and economic development of the United States from Reconstruction to the present.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 2S03 WAR IN THE WEST, 1850-1945
A survey of the development of warfare in the Western World from 1850 to 1945. Particular attention is paid to the two World Wars in the twentieth century.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 2S03

HISTORY 2T3 SURVEY OF CANADIAN HISTORY, BEGINNINGS TO 1885
A survey of the political, cultural, social and economic development of Canada to 1885, from first nations and colonial origins to Confederation and the North West Rebellion.
Three hours (two lectures, one tutorial); one term
Prerequisite: Registration in Level II or above

HISTORY 2T3 SURVEY OF CANADIAN HISTORY, 1885 TO THE PRESENT
A survey of the political, cultural, social and economic development of modern Canada, from the North West Rebellion and nation-building era to the present.
Three hours (two lectures, one tutorial); one term
Prerequisite: Registration in Level II or above

HISTORY 2U3 HISTORICAL ORIGINS OF GLOBALIZATION, 1200-1700
An introduction to interpretations of globalization, the appearance and expansion of cross-cultural trade systems, colonization and population diasporas.
Three hours (two lectures, one tutorial); one term
Prerequisite: Registration in Level II or above

HISTORY 2U3 HISTORICAL ORIGINS OF GLOBALIZATION, 1700-1950
The emergence of global economies, settlement colonies, the dispersal of flora and fauna, the spread of ideas about property and economic development, innovation in finance and communications.
Three hours (two lectures, one tutorial); one term
Prerequisite: Registration in Level II or above

HISTORY 3A3 THE MODERN MIDDLE EAST
A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3A3 THE MODERN MIDDLE EAST
A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3A3

HISTORY 3B3 MODERN JAPAN
A survey of 19th and 20th century Japan, with emphasis on political developments, social change and Japan's relations with East Asia and the West.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: JAPAN ST 3B3

HISTORY 3B3 AFRICA AND THE AFRICAN DIASPORA
An exploration of the voluntary and involuntary movements of peoples of African ancestry across the continental homeland, their dispersion around the world and return to Africa.
Three lectures; one term
Prerequisite: Registration in Level II or above

HISTORY 3D3 FRANCE IN ENLIGHTENMENT AND REVOLUTION
A study of change in eighteenth-century France, with emphasis on the origins, nature and impact of the Enlightenment and the French Revolution.
Three hours (lectures and discussion); one term
Prerequisite: Six units of History and registration in Level II or above

HISTORY 3D3 THE JEWISH WORLD IN NEW TESTAMENT TIMES
A study of Judaism in the Greco-Roman World. The course will explore selected questions in political history, the development of sects and parties, the role of the temple, apocalypticism and the Dead Sea Scrolls.
Two lectures; one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 3D3

This course is administered by the Department of Religious Studies.
HISTORY 3EE3  THE GREEK HISTORIANS
The study in translation of Herodotus, Thucydides and other Greek historical writers, with consideration of the evolution of their genre and their contributions to the development of historiography.
Three lectures; one term
Prerequisite: Six units from HISTORY 2K03, 2L03, 2L23, 2L3 or registration in Level III or above of a program in Classics
Cross-list: CLASSICS 3EE3
This course is administered by the Department of Classics.

HISTORY 3F03  MEDIEVAL SOCIETY
An examination of the aristocratic, monastic, urban and rural communities of the Middle Ages. Attention will be given to patterns of social organization as well as to such specific themes as gender, popular piety, justice and warfare.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3FF3  NAZI GERMANY
This course examines the origins and growth of National Socialism, its twelve years in power and the war that led to its demise. Themes under consideration will also include daily life in Germany in the 1930s and the Holocaust.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3GG3  BUSINESS HISTORY: THE CANADIAN EXPERIENCE IN INTERNATIONAL PERSPECTIVE
An examination of major developments in the formation of the modern corporation and the international business system, including a consideration of the impact of the business system on Canadian society.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3HH3  ROMAN SLAVERY
An examination of Roman slavery using a variety of sources (historical and juridical texts, funerary inscriptions, archaeological evidence) in order to determine its place in Roman social structure and its importance to the ancient economy and culture.
Three lectures; one term
Prerequisite: Six units from HISTORY 2K03, 2L3C, 2L3D, 2L3L, CLASSICS 2P06 or registration in Level III or above of a program in Classics
Cross-list: CLASSICS 3HH3
Not open to students with credit in CLASSICS 3MM3 or HISTORY 3MM3 if the topic was Roman Slavery.
This course is administered by the Department of Classics.

HISTORY 3I03  THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1870-1945
An examination of the origins and course of the First World War; the failure of post-war stabilization; and the origins and course of the Second World War.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3I03

HISTORY 3II3  AMERICAN FOREIGN RELATIONS SINCE 1898
Survey of major events and turning points of U.S. diplomatic history since the late 19th century. Emphasis on cultural dimensions of the American empire and selected historiographical controversies.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: PEACE ST 3II3

HISTORY 3J03  THE UNITED STATES IN THE 1960s
An examination of the political, social and cultural changes that occurred in the United States during the 1960s. Topics include the civil rights struggle, Black Power movement, New Left, opposition to the Vietnam War, counterculture, feminism and the conservative backlash.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3J33  CRIME, CRIMINAL JUSTICE AND PUNISHMENT IN MODERN HISTORY
A study of the changing face of the institutions of criminal justice and of criminal behaviour, as revealed in statistical and conventional historical works. The focus will be on North America, Great Britain and France.
Three lectures; one term
Prerequisite: Registration in Level II or above, with a minimum of six units of History

HISTORY 3KK3  THE VIETNAM WAR
The history of the First and Second Indochina Wars (1945-1973) is examined from multiple perspectives. Explores how and why the war was fought, as well as its global legacy.
Prerequisite: Registration in Level II or above
Antirequisite: PEACE ST 3KK3

HISTORY 3L03  SOCIAL ACTIVISM, 1500-2000
A thematic study of community activism in Europe and North America. Students will be exposed to the religious, socio-economic and political contexts of social activism and the historical theory and practice of community-based actions.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3L03

HISTORY 3M03  GREEK INTELLECTUAL REVOLUTION
A study of the birth of rationalistic and naturalistic thought in Greece, placing this intellectual revolution in its social, political and cultural context.
Three lectures; one term
Prerequisite: Six units from HISTORY 1L03, 1M03, 2K03, 2L03, 2L23, CLASSICS 2P06 or registration in Level III or above of a program in Classics
Cross-list: CLASSICS 3M03
Offered in alternate years.
This course is administered by the Department of Classics.

HISTORY 3NN3  TOPICS IN ANCIENT HISTORY
Studies of Greek or Roman history and institutions. Consult the Department for the topic to be offered.
Three lectures; one term
Prerequisite: Six units from HISTORY 2K03, 2L03, 2L23, 2L3C, 2L3L or registration in Level II or above of a program in Classics
Cross-list: CLASSICS 3NN3

HISTORY 3P03  RELIGION AND SOCIETY IN CANADA
This course will examine the origin, nature and development of the major Canadian religious denominations from the 17th to the mid-20th Century.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3P03

HISTORY 3Q03  THE SOVIET UNION THROUGH FILM
Soviet history through the prism of Soviet film as a primary source from 1924 to the present.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Offered in alternate years.

HISTORY 3QQ3  THE SOVIET UNION: TRANSFORMATION AND CHANGE
The transformation of the Soviet state and society since 1985.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3QQ3

HISTORY 3RR3  GREEK AND ROMAN RELIGION
An overview of Greek and Roman religious belief and practice, including major gods and goddesses, cults, festivals and religious practices, and the role of religion in society.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3RR3

HISTORY 3SS3  MODERNRUSSIAN DIPLOMACY
An examination of the role of Russia in world affairs since 1991, including its participation in international organizations, its foreign policy, and its relations with other countries.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3SS3

HISTORY 3TT3  EUROPE AND THE COLD WAR
An examination of the Cold War from its beginning in 1945 until its conclusion in 1991, focusing on the major powers involved and their strategies.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3TT3

HISTORY 3UU3  THE COLD WAR: Origins, Course, and Consequences
An examination of the origins, conduct, and consequences of the Cold War from 1945 to 1991.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3UU3

HISTORY 3VV3  INTERNATIONAL RELATIONS: THEORY AND PRACTICE
An introduction to the theoretical and practical aspects of international relations.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3VV3

HISTORY 3XX3  COMPARATIVE RELIGIONS: A GLOBAL VIEW
An overview of comparative religion, focusing on the major world religions and their historical development.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3XX3

HISTORY 3YY3  THE HISTORY OF THE CANADIAN WORKING CLASS
An examination of social, political and economic issues shaping the development of the Canadian working class. This includes investigation of the ideological divisions, ethnic relations and gender roles within the working class and within the labour movement.
Three lectures; one term
Prerequisite: Registration in Level II or above

HISTORY 3ZZ3  THE COLD WAR: TRANSITION AND CHANGE
An examination of the transition from the Cold War to the post-Cold War era, focusing on key events and developments.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 3ZZ3

HISTORY 4003  THE SECOND WORLD WAR
An examination of the Second World War, focusing on the major events and their impact.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4003

HISTORY 4103  THE HISTORY OF CANADA
An overview of Canadian history from prehistory to the present, focusing on major themes and periods.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4103

HISTORY 4203  THE HISTORY OF THE UNITED STATES
An overview of American history from prehistory to the present, focusing on major themes and periods.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4203

HISTORY 4303  THE COLD WAR: CONSIDERATIONS OF THE CANADA AND AMERICA
An examination of the Cold War from the perspective of Canada and America, focusing on key events and developments.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4303

HISTORY 4403  THE HISTORY OF THE UNITED KINGDOM
An overview of British history from prehistory to the present, focusing on major themes and periods.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4403

HISTORY 4503  THE HISTORY OF THE UNITED STATES
An examination of social, political and economic issues shaping the development of the United States. This includes investigation of the ideological divisions, ethnic relations and gender roles within the country's transition from a prevailing conservative liberalism premised on community solidarity to a liberal democracy which exalts individual rights.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4503

HISTORY 4603  THE HISTORY OF THE UNITED STATES
An examination of the role of the United States in international affairs since 1945, focusing on key events and developments.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4603

HISTORY 4703  THE HISTORY OF THE UNITED STATES
An examination of social, political and economic issues shaping the development of the United States. This includes investigation of the ideological divisions, ethnic relations and gender roles within the country's transition from a prevailing conservative liberalism premised on community solidarity to a liberal democracy which exalts individual rights.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: CLASSICS 4703
HISTORY 3R03  EUROPE BETWEEN THE WARS, 1918-1938
This course explores the political radicalism, social transformation and cultural experimentation which defined Europe in the roaring 1920s and the crisis-ridden 1930s.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3R33  WAR AND SOCIETY IN 20TH-CENTURY BRITAIN
Imperialism and Society in Britain: the impact of World War I and World War II on the British Empire.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3R33

HISTORY 3T03  EARLY MODERN FRANCE, 1450-1789
France was without question one of the most powerful polities in early modern Europe and serves as a useful focal point for understanding the emergence of absolutism, colonization, imperialism, urbanization and changing gender and social roles.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3TT3  LEISURE AND ENTERTAINMENT IN GREECE AND ROME
Social life, leisure and festivals in the Greek and/or Roman world. Topics may include banqueting, bathing, theatre and spectacle and religious holidays. Literature, art and archaeological evidence will be considered.
Three lectures; one term
Prerequisite: Six units of Level II or III Classics or registration in Level III or above of a program in Classics
Cross-list: CLASSICS 3TT3
Anti-requisite: CLASSICS 3T03
This course is administered by the Department of Classics. Offered in alternate years.

HISTORY 3TU3  THE SOCIAL HISTORY OF TRUTH
An examination of the history of modern science, putting special emphasis on the production and consumption of knowledge.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above

HISTORY 3V03  MADNESS IN THE AGE OF REASON: MENTAL ILLNESS AND SOCIETY FROM 1750 TO THE PRESENT DAY
An exploration of the history of madness from the rise of the asylum to the present day.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Anti-requisite: HEALTHST 2003

HISTORY 3V33  WAR AND SOCIETY IN EARLY MODERN BRITAIN 1485-1815
A thematic study of the nature of British warfare and its relationship to society during the period when Britain developed as a major military and naval power.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 3V33

HISTORY 3W03  WOMEN IN CANADA AND THE U.S. TO 1920
This course examines key areas of women's history, such as indigenous cultures, slavery, immigration, religion, witchcraft, the family, sexuality, paid and unpaid labour and the first wave of the women's movement.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: WOMEN ST 3G03
Anti-requisite: HISTORY 3X03

HISTORY 3WW3  WOMEN IN CANADA AND THE U.S. FROM 1920
This course examines key areas of women's history, such as the impact of the Great Depression and World War II, the civil rights movement, the sexual revolution and the second wave of the women's movement.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: WOMEN ST 3G33
Anti-requisite: HISTORY 3X03

HISTORY 3X03  ROMAN RELIGION
A study of the role of religion in Roman public and private life using literary, documentary and archaeological evidence.
Three lectures; one term
Prerequisite: Six units from HISTORY 2K03, 2LC3, 2LD3, 2LL3 or registration in Level III or above of a program in Classics
Cross-list: CLASSICS 3X03
This course is administered by the Department of Classics. Offered in alternate years.

HISTORY 3Y03  DEATH, DISEASE AND DEGENERATION: A HISTORY OF HEALTH AND HEALTH CARE IN CANADA
Explores the history of health and health care in Canada, from the first Western European settlements to the present day.
Two lectures one small group session (one hour); one term
Prerequisite: Registration in Level II or above
Cross-list: HEALTHST 3Y03, HTH SCI 3Y03
This course is administered by the Bachelor of Health Sciences (Honours) program.

HISTORY 3Z03  JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD
On the lures and threats of the modern world from the early eighteenth to the early twentieth centuries. Topics include: Jewish philosophy in the Age of Reason, new Jewish denominations, assimilation, early Zionism, Yiddish socialism, the beginnings of modern anti-Semitism movements of cultural renewal.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 3Z03
Anti-requisite: RELIG ST 2X03
This course is administered by the Department of Religious Studies.

HISTORY 3ZZ3  JUDAISM AND THE JEWISH PEOPLE IN THE TWENTIETH CENTURY
Jews and Judaism in a century of catastrophe and renewal. The progress of Emancipation; Jews in Canada and the U.S.; the Jewish catastrophe in Europe; the Jewish identities in literature and the arts.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 3ZZ3
Anti-requisite: RELIG ST 2XZ3
This course is administered by the Department of Religious Studies.

Note: Level IV seminars are open only to students registered in Level III and IV of an Honours History program. Enrolment will be limited to approximately 15 students per seminar. The Department is able to offer only a selection of the seminars listed below every year. Information on courses may be obtained from the Department. Seminar places will be allotted each March for the succeeding session; early application to the Department is essential.

HISTORY 4A06  RACISM AND HUMAN RIGHTS IN POST-CONFEDERATION CANADA
This course examines ethnic and racial prejudices and discrimination in Canada including attitudes towards immigrants from Asia and Europe, African Canadian and Indigenous peoples. It will also explore the efforts of human rights advocates.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2J06, 2TT3 or 2UU3; and registration in Level III or IV of an Honours program in History
Departmental permission required.

HISTORY 4A06  EARLY MODERN BRITAIN, 1500-1600
Selected topics in the political, religious, intellectual, and social life of the British peoples, 1500-1800.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2N09, 2T06 or 3S33; and registration in Level III or IV of an Honours program in History
Departmental permission required.

HISTORY 4B06  MODERN CANADA, 1896-1968: AN INTELLECTUAL AND CULTURAL HISTORY
An intensive study of the shaping of the twentieth-century outlook in English-speaking Canada. Topics will include the growth of the welfare state, ideologies (liberalism, conservatism, socialism, feminism), the cultural impact of depression and the two world wars and the role of religion in shaping the Canadian community.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2T03, 2TT3 or 3NN3; and registration in Level III or IV of any Honours program in History
Departmental permission required.
HISTORY 4B56 MODERN JAPAN
Japan from the Meiji Restoration to the post-war resurgence, with emphasis on political developments and social change. Seminar (two hours); two terms.
Prerequisite: HISTORY 3B03 and registration in Level III or IV of any Honours program in History, or JAPAN ST 3B03 (HISTORY 3B03) with a grade of at least B- and registration in Level III or IV of the Japanese Studies program.
Departmental permission required.

HISTORY 4C06 MODERN EUROPEAN CULTURE IN CRISIS
An examination of European intellectual and cultural history from the late eighteenth to the mid-twentieth centuries. Themes include the encounter with modernity, the intersection of culture and politics, and the impact of two world wars, and the response of intellectuals, artists and scientists to ideological polarization.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2C06, 2F33, 2L33, 2Q33, 2S03, 3H06, 3H33, 3P03, 3Q03, 3Q33, 3R03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4E06 HUMAN RIGHTS IN AFRICA: HISTORICAL PERSPECTIVES
An exploration of the history of human rights in Africa in the colonial and post-colonial periods.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2J03, 2J03, 3B03 or 3C03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4E06 THE LEGACY OF THE FIRST WORLD WAR ON BRITISH SOCIETY
This course examines the social, political and cultural consequences of the First World War on Britain, both at the time of its fighting and long after the fighting had ended.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2M06, 2N06, 3P03 or 3R03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4F06 HEALTH AND MEDICINE IN THE MODERN WESTERN WORLD
An examination of public health and medicine in the Modern Western World, with particular emphasis on Britain and North America, c. 1760-1945. Topics will include: the impact of infectious diseases on First Nations’ society; urban sanitary reform; the emergence of the medical profession; and the rise of universal health insurance.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2T03, 3V03 or 3Y03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4G66 MIDDLE EASTERN AND ISLAMIC HISTORY
Aspects of the social history of the Middle East and Islamic world, such as the Muslim-Christian encounter, gender and ethnicity. Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2E03, 2B33, 2H33, 3A03, 3A3; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4H06 WOMEN AND SOCIAL MOVEMENTS IN THE NINETEENTH- AND TWENTIETH-CENTURY UNITED STATES
Women’s involvement in social movements such as anti-lynching, unionism, feminism and civil rights is used to discuss power, social change, race, feminism, masculinity, and class in U.S. history. Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2F33, 2Q33, 2R33 or 3W33; and registration in Level III or IV of any Honours program in History.
Not open to students with credit in HISTORY 4J06 THE UNITED STATES SINCE 1865 if taken in the 1990, 2002 or 2003 academic years. Departmental permission required.

HISTORY 4J06 U.S. FOREIGN RELATIONS
Topics in the history of the United States Foreign relations in the modern era. Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2R03, 3F03, 3I03 or 3K03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4K06 ENVIRONMENT AND ENVIRONMENTALISM IN MODERN NORTH AMERICA, 1890-1990
Explores how different social groups in the United States and Canada confronted the sometimes adverse impact of urban and industrial growth on the physical environment of their communities. Seminar (two hours); two terms.
Prerequisite: Registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4L06 SOCIETY AND CULTURE IN THE ATLANTIC WORLD
An examination of selected themes in the history of the Atlantic world from the sixteenth to the nineteenth centuries. Topics may include race, gender and class; slavery and emancipation; revolution and the transfer of revolutionary ideas.
Prerequisite: One of HISTORY 2A03, 2D03, 2M03, 2R03, 2U03, 3C03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4M06 RUSSIA AND REVOLUTION
The Soviet experiment from 1917 to the death of Stalin and beyond with special emphasis on the issue of identity.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2I03, 2Q03, 2S03, 3H06, 3Q03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4N06 CONTEMPORARY EUROPE
Topics in the history of Europe during the 20th Century.
Seminar (two hours); two terms.
Prerequisite: Six units from HISTORY 2C06, 2F33, 2L33, 2Q33, 2S03, 3H06, 3H33, 3I03, 3Q03, 3Q33 or 3R03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4O06 RELIGION AND SOCIETY IN LATE ANTIQUITY
Selected themes in late Roman and early Christian history.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2C03, 2D03, 2F03, 2I03, 2L03, 2LA3, 2L33, 2LC3, 2LD3, 2LL3, 3C03, 3CC3, 3F03, 3H03, 3H33, 3L33, 3MM3; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4P06 REVOLUTIONS IN THE HISTORY OF SCIENCE AND TECHNOLOGY
An examination of the historiographies of science and technology, with special focus on science and technology’s social functions and interactions.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2E03, 2H33 or 3U03; and registration in Level III or IV of any Honours program in History.
Antirequisite: HISTORY 4M06.
Departmental permission required.

HISTORY 4Q06 EUROPEAN REFORMATIONS
This seminar course examines religion as a powerful cultural influence in Europe during the sixteenth century. Students will study the major Catholic and Protestant religious reform movements as well as the interaction of Christian and non-Christian traditions.
Seminar (two hours); two terms.
Prerequisite: One of HISTORY 2C03, 2D03, 2F03, 2H33, 2I03, 2L03, 2P03, 2Q03 or 3R03; and registration in Level III or IV of any Honours program in History.
Departmental permission required.

HISTORY 4R06 INDEPENDENT RESEARCH
A reading and/or research program under the supervision of one member of the Department. A major paper is required, as well as a formal oral examination.
Prerequisite: Registration in Level IV of any Honours program in History with a CA of at least 9.0; and permission of the Department.
Departmental permission required.
HISTORY 4W06  THE NORTH AMERICAN CITY, 1700 TO THE PRESENT
An examination of: founders' designs; practices and influence of business communities; the impact of technologies and architecture; spatial organization of class and ethnicity; shelter and urban services; differences between Canadian and American cities.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2R03, 2R05, 2T03 or 2T03; and registration in Level III or IV of any Honours program in History
Departmental permission required.

HISTORY 4Y06  THE SECOND WORLD WAR
Emphasis will be placed on the military and diplomatic aspects of the subject.
Seminar (two hours); two terms
Prerequisite: One of HISTORY 2C06, 2S03 3J03, 3Q03 or 3R03; and registration in Level III or IV of any Honours program in History
Departmental permission required.

HUMANITIES (GENERAL)

Courses
If no prerequisite is listed, the course is open.

HUMAN 2C03  CRITICAL THINKING
This course aims to improve skills in analyzing and evaluating arguments and the statements found in everyday life and academic contexts, and to improve critical judgement.
Two lectures; one tutorial; one term
Prerequisite: Registration in Level II or above
Antirequisite: ARTS&SCI 1B06, CMST 2W03, PHILOS 2R03
HUMAN 2C03 is administered by the Department of Philosophy.

HUMAN 3W03  APPLIED HUMANITIES I
Students gain applied experience in a field related to a Humanities discipline by applying skills and knowledge acquired in undergraduate studies in practical areas such as research projects, pedagogy and work placements. Students participate in defining learning goals and experiences. Prerequisite: Registration in Level III or IV of any Honours program offered by the Faculty of Humanities. Students must contact the Dean's Office, CHN-112, for information on opportunities that are available for the coming year.
Permission of the Associate Dean of the Faculty of Humanities is required.

HUMAN 4W03  APPLIED HUMANITIES II
Students gain applied experience in a field related to a Humanities discipline by applying skills and knowledge acquired in undergraduate studies in practical areas such as research projects, pedagogy and work placements. Students participate in defining learning goals and experiences. Prerequisite: Registration in Level III or IV of any Honours program offered by the Faculty of Humanities. Students must contact the Dean's Office, CHN-112, for information on opportunities that are available for the coming year.
Permission of the Associate Dean of the Faculty of Humanities is required.

INDIGENOUS STUDIES

WEB ADDRESS: http://www.mcmaster.ca/indigenous/default.htm

President's Committee on Indigenous Issues
Co-Chairs
T. Deer (Six Nations Community Representative)
P. Daenzer (McMaster University Representative)

INDIGENOUS STUDIES...  

Courses
If no prerequisite is listed, the course is open.

INDIG ST 1A03  INTRODUCTION TO INDIGENOUS STUDIES
This course offers an introduction to Indigenous peoples' world views from pre-contact to the present. Themes will be examined along with the issues of representation and colonialism.
Three hours (lectures and seminars); one term
Prerequisite: Any course in the Faculty of Humanities
Antirequisite: INDIG ST 1A05

INDIG ST 1AA3  INTRODUCTION TO CONTEMPORARY INDIGENOUS STUDIES
This course will explore the relationship between Indigenous peoples and mainstream society in the twentieth-century with regard to governmental policy, land claims, economic development, and self-determination.
Three hours (lectures and seminars); one term
Prerequisite: Any course in the Faculty of Humanities
Antirequisite: INDIG ST 1AA5

INDIG ST 2A03  INDIGENOUS PEOPLE'S SPIRITUALITY
This course will examine the spirituality based knowledge of Aboriginal peoples across North America. The philosophies, world view, sacred ways of knowing and relationship to the natural world will be explored.
Three hours (lectures and seminars); one term
Prerequisite: INDIG ST 1AA3, 1AA5; or one of CAYUGA 1203, MOHAWK 1203, OJIBWE 1203; or permission of the instructor
Antirequisite: INDIG ST 2A05

INDIG ST 2A06  GENDER, KNOWLEDGE, AND METHODOLOGY
This course will explore the basis of Indigenous knowledge and how that translates into theory and methodology. It explores a range of interdisciplinary approaches based on current work of Indigenous scholars redefining the field of Indigenous research.
Three hours (lectures and seminars); one term
Prerequisite: INDIG ST 1AA3, 1AA5; or one of CAYUGA 1203, MOHAWK 1203, OJIBWE 1203; or permission of the instructor
Antirequisite: INDIG ST 2AA6

INDIG ST 2B03  HISTORY OF INDIGENOUS PEOPLES' SOVEREIGNTY
An examination of North America Indigenous People's political and economic history in the pre-contact, early contact, and colonial era within a post-colonial context. Topics will include: self-determination, resource management, land claims, and economic development.
Three hours (lectures and seminars); one term
Prerequisite: INDIG ST 1AA3, 1AA5; or one of CAYUGA 1203, MOHAWK 1203, OJIBWE 1203; or permission of the instructor
Antirequisite: INDIG ST 2C03

INDIG ST 2C03  CONTEMPORARY INDIGENOUS SOCIETIES AND ISSUES: SELECTED TOPICS

2007-2008 Topic: TBA
A review of the geographic, cultural and demographic composition of Inuit, First Nations and Metis, and of the major current developments on land, cultural integrity, treaties, economic development, community social development and self-government.
Three hours (lectures and seminars); one term
Prerequisite: INDIG ST 1AA3, 1AA5; or one of CAYUGA 1203, MOHAWK 1203, OJIBWE 1203; or permission of the instructor
INDIG ST 2C03 may be repeated, if on a different topic, to a total of six units.

INDIG ST 2003  TRADITIONAL INDIGENOUS ECOLOGICAL KNOWLEDGE
This course is a study of the ecological teachings of Indigenous peoples and of their relationships with the natural environment in historical and contemporary times.
Three hours (lectures and seminars); one term
Prerequisite: INDIG ST 1AA3, 1AA5; or one of CAYUGA 1203, MOHAWK 1203, OJIBWE 1203; or permission of the instructor
Not open to students with credit in INDIG ST 3CC3, if the topic was Traditional Indigenous Ecological Knowledge.
INDIG ST 3C03 STUDY OF IROQUIOIS FIRST NATIONS IN CONTEMPORARY TIMES
An intensive examination of the Iroquois Confederacy and its attempts to maintain its culture, socio-political systems and economic independence. Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

INDIG ST 3C33 CONTEMPORARY INDIGENOUS SOCIETIES: SELECTED TOPICS
2007-2008 Topic: TBA
An intensive examination of selected political, economic, or social problems faced by selected Indigenous peoples.
Three hours (lectures and seminars); one term
Prerequisite: Six units Level II Indigenous Studies or permission of the instructor
INDIG ST 3C33 may be repeated, if on a different topic, to a total of six units.

INDIG ST 3D03 CONTEMPORARY NATIVE LITERATURE IN CANADA
A study of significant works by Native writers who give voice to their experience in Canada. Issues to be examined include appropriation of voice, Native identity, women in Indigenous societies, and stereotyping.
Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor

INDIG ST 3E03 CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES
A study of contemporary works by Native writers in the United States. Native representations of voice, identity, gender, and popular culture will be examined.
Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor
INDIG ST 3E03 may be repeated, if on a different topic, to a total of nine units.

INDIG ST 3H03 INDIGENOUS MEDICINE I - PHILOSOPHY
This course will examine the Aboriginal concepts of health and wellness. The wholistic traditional approach will be used in the classroom as well as in visits by elders, medicine people and class trips to places of health, wellness and healing.
Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor

INDIG ST 3H03 INDIENOUS MEDICINE II - PRACTICAL
This course will examine the concept of traditional medicines, their histories and their connection to Aboriginal philosophies of wellness (studied in Part I); procedures for procurement and use of the medicines will be addressed and emphasis will be placed on the reasons for efficacy.
Three hours (lectures and seminars); one term
Prerequisite: Six units of Level II Indigenous Studies or permission of the instructor
Not open to students with credit in INDIG ST 3CC3, if the topics were Traditional Approaches to Healing and Wellness or Indigenous Peoples Health.

INDIG ST 3L03 INDIGENOUS INDEPENDENT STUDY
In consultation with the Director of Indigenous Studies, students will research an approved topic, on the basis of materials outside normally available course offerings. A major paper will be required.
Prerequisite: Registration in Level II or III of the Combined B.A. in Indigenous Studies program or permission of the Director

CAYUGA ...
Courses If no prerequisite is listed, the course is open.

CAYUGA 1203 INTRODUCTION TO CAYUGA LANGUAGE AND CULTURE
This course will study the Cayuga language, in its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); one term
Antirequisite: CAYUGA 1206
This course is administered by and offered at Six Nations Polytechnic, Ohsweken, Ontario.

CAYUGA 2203 INTERMEDIATE CAYUGA
This course expands on the vocabulary and the oral skills for the Cayuga language. In addition, the course reviews the written component of the language.
Three hours (lecture and seminars); one term
Prerequisite: CAYUGA 1203 or 1206
Antirequisite: CAYUGA 2206
This course is administered by and offered at Six Nations Polytechnic, Ohsweken, Ontario.

MOHAWK ...
Courses If no prerequisite is listed, the course is open.

MOHAWK 1203 INTRODUCTION TO MOHAWK LANGUAGE AND CULTURE
This course will study the Mohawk language, in its spoken and written forms, in the context of Iroquoian cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); one term
Antirequisite: MOHAWK 1206

MOHAWK 2203 INTERMEDIATE MOHAWK
This course expands on the vocabulary and the oral skills for the Mohawk language. In addition, the course reviews the written component of the language.
Three hours (lecture and seminars); one term
Prerequisite: MOHAWK 1203 or 1206
Antirequisite: MOHAWK 2206

OJIBWE ...
Courses If no prerequisite is listed, the course is open.

OJIBWE 1203 INTRODUCTION TO OJIBWE LANGUAGE AND CULTURE
This course will study the Ojibwe language, in its spoken and written forms, in the context of Ojibwe cultural traditions, values, beliefs and customs.
Three hours (lecture and seminars); one term
Antirequisite: OJIBWE 1206

OJIBWE 2203 INTERMEDIATE OJIBWE
This course expands on the vocabulary and the oral skills for the Ojibwe language. In addition, the course reviews the written component of the language.
Three hours (lecture and seminars); one term
Prerequisite: OJIBWE 1203 or 1206
Antirequisite: OJIBWE 2206

INQUIRY
Courses If no prerequisite is listed, the course is open.

INQUIRY 1H03 INQUIRY IN THE HUMANITIES
This introduction to the systematic investigation of an issue develops skills that will serve students well in their university careers. Students learn how to formulate questions, gather and interpret evidence and reach well-considered conclusions, using, as content, a topic central to research in the Faculty of Humanities.
Three hours; one term
Prerequisite: Registration in Humanities I or Music I
INQUIRY 1SC3  INQUIRY IN SCIENCE I
This introduction to the systematic investigation of an issue develops skills that will serve students well in their university careers. Students learn how to formulate questions, gather and interpret evidence, and reach well-considered conclusions, using as content, a variety of Science-based topics. The choice of topics is guided by the students' interests.
One hour; term one; Two hours, term two
Prerequisite: Registration in Science I or Mathematics and Statistics I
Anti-requisite: HTH SC1 4X03
Enrolment is limited.

INQUIRY 1SS3  INQUIRY IN THE SOCIAL SCIENCES
The systematic investigation of any subject requires a set of widely applicable and transferable skills. Students learn how to formulate questions, gather and interpret evidence, and reach well-considered conclusions. The content theme will be drawn from Social Sciences issues and will vary depending upon the subject expertise of the instructor.
Three hours; one term
Prerequisite: Registration in Social Sciences I or Kinesiology I
Not open to students with credit in INQUIRY 1HU3, 1SC3.

INQUIRY 2HS3  CONTROVERSIAL ISSUES IN HEALTH
Students will explore the themes of Collaborations for Health from an interdisciplinary perspective with different viewpoints and debate offered in one of three thematic areas.
Three hours; one term
Prerequisite: Registration in Level I or II of any program or permission of the course coordinator.

INQUIRY 3HS3  HEALTH RESEARCH SELECTIVE
Students will work singly or in small groups with a faculty member in an area of McMaster University's Collaborations for Health Initiative. Students will present a final poster in a public forum.
Three hours; one term
Prerequisite: INQUIRY 2HS3. Students will be selected after submission of a letter of interest to the course coordinator.

ITALIAN
(SEE LINGUISTICS AND LANGUAGES, ITALIAN)

JAPANESE AND JAPANESE STUDIES
(SEE LINGUISTICS AND LANGUAGES, JAPANESE)

JEWSH STUDIES
(SEE INTERDISCIPLINARY MINORS AND THEMATIC AREAS)

KINESIOLOGY
WEB ADDRESS: http://mcmaster.ca/kinesiology/
Ivor Wynne Centre, Room 203 Ext. 24462

Faculty as of January 15, 2007
Chair
Neil McCartney
Associate Chair (Undergraduate Program)
Nick Cipriano

Professors
Cameron J. Binkie/B.A., B.P.E. (McMaster), M.A., Ph.D. (Western Ontario)
Digby Elliott/B.Sc., M.Sc., Ph.D. (Waterloo), Senior Canada Research Chair, Motor Control in Special Populations
Audrey Hicks/B.P.E., M.Sc., Ph.D. (McMaster)
Sue Inglis/B.P.E., M.A. (Alberta), Ph.D. (Ohio State)
Timothy D. Lee/B.H.K., M.A. (Windsor), Ph.D. (Louisiana State)
Neil McCartney/B.Ed. (Exeter), Ph.D. (McMaster)
Digby G. Sale/B.P.H.E. (Toronto), M.A. (Western Ontario), Ph.D. (McMaster)

Associate Professors
Nancy B. Bouchier/B.A., M.A., Ph.D. (Western Ontario)
Steven Bray/B.A., M.A. (Western Ontario), Ph.D. (Waterloo)
Nick Cipriano/B.P.H.E., M.Sc. (Lakehead)
James J. Dowling/B.H.K., M.H.K. (Windsor), Ph.D. (Waterloo)
Martin J. Gibala/B.H.K. (Windsor), M.Sc. (McMaster), Ph.D. (Guelph)
Robert J. Henderson/B.P.E. (McMaster), M.A., Ph.D. (Alberta)
James Lyons/B.A., M.Sc. (McMaster), Ph.D. (Simon Fraser)
Maureen J. MacDonald/B.Sc. (Acadia), M.Sc., Ph.D. (Waterloo)
Kathleen A. Martin-Gins/B.Sc. (Toronto), M.A. (Western Ontario), Ph.D. (Waterloo)
Stuart M. Phillips/B.Sc., M.Sc. (McMaster), Ph.D. (Waterloo)
David C. Wilson/Cert.Ed. (St. Paul's College), B.Ed. (Bristol), M.A. (York)

Assistant Professors
Barry Bartlett/B.P.H.E. (Toronto), M.A. (Western Ontario), CATA (C)
Peter J. Keir/B.Sc. (Waterloo), Ph.D. (Waterloo)
Gianni Parise/B.Kin., M.Sc., Ph.D. (McMaster)
James R. Potvin/B.H.K. (Windsor), Ph.D. (Waterloo)

Associate Members
Vicki Galea/Rehabilitation Science B.Sc., M.Sc. (Waterloo), Ph.D. (McMaster)
Marked V. Kamath/Medicine B.Eng., M.S., Ph.D. (Indian Inst. of Tech., Madras), Ph.D. (McMaster)
Robert S. McKelvie/Medicine B.Sc., M.Sc., M.D. (Western Ontario), Ph.D. (McMaster)
Michael Pierrynowski/Rehabilitation Science B.Sc., M.Sc., M.D., M.Sc. (Simon Fraser)
Mark A. Tarnopolsky/Medicine B.P.E., M.D., Ph.D., F.R.C.P. (C), M.C.Master
Jean Wessel/Rehabilitation Science B.Sc. (McGill), M.HSc. (McMaster)
Ph.D. (Alberta)
Laurie Wishart/Rehabilitation Science Dip.PAOT, B.Sc., (Toronto), M.Sc., Ph.D. (McMaster)

Department Notes:
1. Kinesiology students may not register in Level III or IV Kinesiology courses until all required Level I and II Kinesiology courses have been successfully completed.
2. Not all Level III and IV Kinesiology courses are offered each year.
3. KINESIOLY 1Y03 and 1Y04 are available to non-Kinesiology students.
4. The following courses are available for elective credit for students enrolled in Level III or above of a non-Kinesiology program: KINESIOLY 3D03, 3I03, 3J03, 3M03, 3P03, 3S03, 3S03, 3T03, 3Y03, 4D03, 4G03, 4M03 and 4T03. Space for such students is limited and places are assigned on a first come basis.
5. Kinesiology students who previously completed KINESIOLY 4P03 may use this course to satisfy Psychology requirements for Kinesiology students pursuing a Minor in Psychology.
6. KINESIOLY 2G03 and 3S03 may be used to satisfy Health Studies requirements for Kinesiology students pursuing a Minor in Health Studies.
7. KINESIOLY 4S03 may be used to satisfy Gerontology requirements for Kinesiology students pursuing a Minor in Gerontology.
8. Some Level III and IV Kinesiology courses may require current CPR/First Aid certification. Students are responsible for checking course outlines and ensuring this requirement is met.

Courses
All courses are open only to Kinesiology students unless otherwise specified. (See Notes 3 and 4 above.)

KINESIOLY 1A03  HUMAN ANATOMY AND PHYSIOLOGY
An introduction to the basic embryology and tissue development and examination of the anatomy and physiology of the skeletal, nervous, cardiovascular, lymphatic and respiratory systems.
Three hours (lectures), two hours (labs/tutorials); one term
Prerequisite: Registration in Kinesiology I
Anti-requisite: HTH SCI 1D06, 1H03, 1H06, 1HH3, 2F03, 2FF3, 2L03, 2LL3
KINESIOLY 1A06, 1Y03, 1Y03
Not open to students with credit or registration in BIOLOGY 4G03.
An examination of the anatomy and physiology of the articular, muscular, gastrointestinal, endocrine, renal and reproductive systems.

Three hours (lectures), two hours (labs/tutorials); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I
Antirequisite: HTH SCI 1D06, 1H03, 1H06, 1HH3, 2F03, 2F03, 2L03, 2L03, 1Y03, 1YY3
Not open to students with credit or registration in BIOLOGY 4G06.

KINESIOL 1C03
PHYSICAL ACTIVITY

Introduction to the study of physical activity epidemiology and examines the relationship between physical activity and health.

Three hours (lectures), one hour (labs/tutorials); one term
Prequisite: Registration in Kinesiology I

KINESIOL 1E03
PSYCHOMOTOR BEHAVIOUR

Examination of the behavioral and psychological principles of motor control and motor learning. Topics include classification and measurement of motor performance, sensory processes, perception, memory, attention and feedback.

Three hours (lectures), two hours (labs/tutorials); one term
Prequisite: Registration in Kinesiology I

KINESIOL 1F03
INTRODUCTION TO HUMAN NUTRITION AND HEALTH

Introduction to the study of human nutrition and examines the role of nutritional practice and physical activity in the prevention and treatment of cardiovascular disease, including obesity and diabetes.

Three hours (lectures), one hour (labs/tutorials); one term
Prequisite: Registration in Kinesiology I

KINESIOL 1G03
RESEARCH METHODOLOGIES AND DATA ANALYSIS

Introduction to the ways in which independent research initiatives are conducted in the discipline of kinesiology based on the generation of pertinent research questions and the testing of specific hypothesis.

Three hours (lectures), one hour (labs/tutorials); one term

KINESIOL 1Y03
HUMAN ANATOMY AND PHYSIOLOGY I

An introduction to the basic embryology and tissue development and examination of the anatomy and physiology of the skeletal, nervous, cardiovascular, lymphatic and respiratory systems.

Three hours (lectures), two hours (labs/tutorials); one term
Completion of Biology U is strongly recommended.

Antirequisite: BIOLOGY 1Y03, 2A03, HTH SCI 1D06, 1H03, 1HH3, 2F03, 2F03, 2L03, 2L03, KINESIOL 1A03, 1A06, 1AA3, 1X06

Not open to students registered in a Kinesiology program, Science I, the Bachelor of Health Sciences (Honours) program or to students with credit or registration in BIOLOGY 4G06.

KINESIOL 1Y3
HUMAN ANATOMY AND PHYSIOLOGY II

An examination of the anatomy and physiology of the articular, muscular, gastrointestinal, endocrine, renal and reproductive systems.

Three hours (lectures), two hours (labs/tutorials); one term
Prequisite: KINESIOL 1Y03
Antirequisite: BIOLOGY 1Y03, 2A03, HTH SCI 1D06, 1H03, 1HH3, 2F03, 2F03, 2L03, 2L03, KINESIOL 1A03, 1A06, 1AA3, 1X06

KINESIOL 1H03
ANATOMY OF SKELLETAL SYSTEM

An introduction to the relationship between the nervous system and skeletal system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1I03
ANATOMY OF NEUROMUSCULAR SYSTEM

An introduction to the relationship between the nervous system and neuromuscular system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1J03
ANATOMY OF CARDIOVASCULAR SYSTEM

An introduction to the relationship between the nervous system and cardiovascular system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1K03
ANATOMY OF LYMPHATIC SYSTEM

An introduction to the relationship between the nervous system and lymphatic system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1L03
ANATOMY OF RESPIRATORY SYSTEM

An introduction to the relationship between the nervous system and respiratory system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1M03
ANATOMY OF DIGESTIVE SYSTEM

An introduction to the relationship between the nervous system and digestive system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1N03
ANATOMY OF URINARY SYSTEM

An introduction to the relationship between the nervous system and urinary system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1O03
ANATOMY OF REPRODUCTIVE SYSTEM

An introduction to the relationship between the nervous system and reproductive system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1P03
ANATOMY OF ENDOCRINE SYSTEM

An introduction to the relationship between the nervous system and endocrine system.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 1Q03
ANATOMY OF NEUROMUSCULAR EXERCISE PHYSIOLOGY

Examination of neuromuscular function during exercise, with an emphasis on factors limiting strength, speed and power performance. Adaptations to training will also be considered, as well as training methods used to induce adaptations.

Three hours (lectures, lab); two terms
Prequisite: KINESIOL 1A03 and 1AA3 (or 1A06) 1C03, 1E03, 1F03, 1G03 and registration in Level II of an Honours Kinesiology program; or registration in Honours Biology (Physiology Specialization)
Antirequisite: KINESIOL 2C06

KINESIOL 2A03
BIOMECHANICAL TOOLS

An introduction to the relationship between the nervous system and biomechanical tools.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A03 and registration in Kinesiology I

KINESIOL 2A06
BIOMECHANICS I

Study of傜ematics and kinetics of human movement, including electromyography, fluid and tissue mechanics with applications.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A06, 2A03 and registration in Level III or above of a Kinesiology program
Antirequisite: KINESIOL 2A06

KINESIOL 2B03
HUMAN GROWTH AND DEVELOPMENT

Growth, developmental and aging changes underlying morphological and functional development of selected physiological systems which influence human exercise capacity throughout the life span.

Three hours (lectures), one hour (labs/tutorials); one term
Prequisite: KINESIOL 1A03, 1AA3 (or 1A06), 1C03, 1E03, 1F03, 1G03 and registration in Level II of an Honours Kinesiology program

KINESIOL 2C06
PHYSIOLOGY OF EXERCISE

The effects of exercise on the physiological systems, and the application of physiological principles to human exercise performance.

Three hours (lectures, labs); two terms
Prequisite: KINESIOL 1A03, 1AA3 (or 1A06) and registration in Level II of an Honours Kinesiology program; or registration in Honours Biology (Physiology Specialization)

KINESIOL 2C03
CARDIORESPIRATORY AND METABOLIC EXERCISE PHYSIOLOGY

Examination of cardiorespiratory function during exercise, with emphasis on factors limiting endurance performance. Adaptations to training will also be considered, as well as training methods used to induce adaptations.

Three hours (lectures), two hours (labs/tutorials); one term
Prequisite: KINESIOL 1A03, 1AA3 (or 1A06) 1C03, 1E03, 1F03, 1G03 and registration in Level II of an Honours Kinesiology program; or registration in Honours Biology (Physiology Specialization)
Antirequisite: KINESIOL 2C06

KINESIOL 2G03
MUSCULOSKELETAL ANATOMY

Examination of functional anatomy from a hands on, experiential perspective with a focus on palpating the structures of the osseous, articular, muscular and supportive systems.

Four hours (labs/tutorials); one term

Prequisite: KINESIOL 1A03, 1AA3 (or 1A06), 1C03, 1E03, 1F03, 1G03 and registration in Level II of an Honours Kinesiology program

KINESIOL 2H03
HISTORY AND PHILOSOPHY OF KINESIOLOGY

A study of the origins and development of modern Kinesiology including an examination of the evolution of Kinesiology subdisciplines and areas of allied professional practice such as physical education and sports medicine.

Three hours (lectures, tutorials); one term
Prequisite: Registration in Level II of a Kinesiology program
Antirequisite: KINESIOL 1D03

KINESIOL 3A03
HISTORY OF EXERCISE AND SPORTS MEDICINE

Selected topics in the social and cultural history of exercise and sports medicine in the Western World, with an emphasis on nineteenth and twentieth century developments in North America.

Three hours (lecture/seminar); one term
Prequisite: Registration in Level III or above of any Kinesiology, Health Studies or History program

KINESIOL 3A06
BIOMECHANICS II

Study of kinematics and kinetics of human movement, including electromyography, fluid and tissue mechanics with applications.

Three hours (lectures, lab); one term
Prequisite: KINESIOL 1A06, 2A03 and registration in Level III or above of a Kinesiology program
Antirequisite: KINESIOL 2A06
KINESIOLOGY

KINESIOL 3B03 PHYSICAL ACTIVITY FOR CHALLENGED POPULATIONS
An introduction to special populations, together with an examination of issues related to integration, design, and objectives of special physical activity programming.
Three hours (lectures); one term
Prerequisite: KINESIOL 1A06, 2G03
Corequisite: KINESIOL 3BP0
Students who do not successfully complete the required KINESIOL 3BP0 placement will forfeit credit in KINESIOL 3B03.

KINESIOL 3BP0 SPECIAL POPULATIONS PLACEMENT
This placement is designed to supplement the student's classroom learning of the issues involving physical activity for special populations. Students design and/or implement physical activity programs in a variety of community settings.
Prerequisite: Registration in Level III or above of a Kinesiology program
Corequisite: KINESIOL 3B03
This placement must be completed in conjunction with KINESIOL 3B03. Students who do not successfully complete this placement will forfeit credit in KINESIOL 3B03.

KINESIOL 3C03 STATISTICS AND RESEARCH DESIGN
Research design and descriptive and inferential statistics in Kinesiology.
Three hours (lectures, labs); one term
Prerequisite: Registration in Level III or above of a Kinesiology program

KINESIOL 3D03 GROWTH, MATURATION AND PHYSICAL ACTIVITY
Growth, development and maturation changing underlying morphologic and functional development of selected physiological systems which influence human exercise capacity during childhood.
Three lectures, debates and applied case study assignment; one term
Prerequisite: KINESIOL 1A06, 2C06; or BIOLOGY 2A03 and registration in Honours Biology (Physiology Specialization)

KINESIOL 3D33 FOUNDATIONS OF OUTDOOR EXPERIENTIAL EDUCATION
An analysis of curricular programs in O.E.E. including environmental, earth, and eco-political education; expeditionary and adventure based learning; eco-psychology and eco-tourism.
Prerequisite: Registration in Level III or above
Antirequisite: KINESIOL 4D03
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.

KINESIOL 3E03 NEURAL CONTROL OF HUMAN MOVEMENT
Neuromuscular control underlying human movement. Topics include basic neurophysiology, mechanisms of sensation, reflexes, voluntary movement and theories of motor control.
Three hours (lectures); one term
Prerequisite: KINESIOL 1A06, 1E03 and registration in Level III or above of a Kinesiology program; or PSYCH 2F03 and registration in Level III or above of an Honours Psychology program and permission of the instructor

KINESIOL 3I03 ETHICS IN KINESIOLOGY: RESEARCH AND PRACTICE
An examination of ethical issues in health research and allied professional practices.
Two hours (lecture), one hour (tutorial); one term
Prerequisite: Registration in Level III or above First offered in 2006-2007.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.

KINESIOL 3J33 HISTORY OF MODERN DANCE
A survey of trends in modern dance including forerunners, pioneers, second generation, post-moderns, and new dance. Students attend performances and participate in workshops.
Three hours (lectures, practical); one term
Prerequisite: Registration in Level III or above
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.

KINESIOL 3K03 SPORTS INJURIES
Common injuries suffered in sport and physical activity will be discussed under the following headings: mechanism of injury, prevention, recognition and care, tissue healing, basic taping techniques, basic support techniques and emergency care.
Two lectures, one lab; one term
Prerequisite: KINESIOL 1A06, 2C06
(Approximately $40.00 will be charged for supplies used in labs.)

KINESIOL 3KP0 SPORTS INJURIES PLACEMENT
This placement is designed to provide practical experience in sports injuries in a variety of clinical settings.
Prerequisite: Registration in Level III or above of a Kinesiology program; and a grade of at least B- in KINESIOL 3K03, and valid CPR/First Aid certification; and permission of the instructor

KINESIOL 3M03 FOUNDATIONS OF ATHLETIC COACHING
An examination of the coaching process with emphasis placed on the behavioural aspects. Topics include leadership styles and decision making, motivation in sport, ethics in coaching, group cohesion and psychological considerations for youth in sport.
Three hours (lectures); one term
Prerequisite: Registration in Level III or above

KINESIOL 3MP3 COMMUNITY LEADERSHIP IN SPORT AND PHYSICAL ACTIVITY
This placement course provides the essential links between classroom knowledge and professional practice. Working with special needs populations, children, adolescents, adults and the elderly, students will experience the challenges faced by community agencies that deliver sport and physical activity programs.
Placement experience equivalent to one day per week (60 hrs.), seminars, tuition.
One term
Prerequisite: Credit or registration in KINESIOL 3M03 and registration in Level III or above
Antirequisite: SOC SCI 3MP3
Not open to students with credit or registration in KINESIOL 4E03 if the placement is in the area of coaching or leadership.

KINESIOL 3N03 ERGONOMICS 1: WORKPLACE INJURY RISK ASSESSMENT
Analysis and quantification of musculoskeletal injury risks in the workplace, with an emphasis on reducing work related low back and upper extremity disorders.
Two hours (lecture), one hour (lab); one term
Prerequisite: KINESIOL 2A03, 2C06

KINESIOL 3P03 SPORT AND SOCIAL DEVELOPMENT
Macro-analysis of sport and culture, considering the place of sport and leisure in cultural transmission and cultural change.
Three hours (lectures and discussion); one term
Prerequisite: One of KINESIOL 1H03, 2B03, SOCSCI 1A06; and registration in Level III or above
Antirequisite: SOCSCI 2T03
Not open to students with credit or registration in SOCSCI 3P03 if the topic was Sociology of Sport.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.

KINESIOL 3S03 SOMATICS AND HOLISTIC HEALTH
An examination of the philosophies and practice of holistic health-medicine, through the writings of somatic pioneers including Rudolf Laban, Imma Lagerfeld, and others. Experimental workshops are used to connect physical and mental health.
Three hours (lectures, practical); one term
Prerequisite: Registration in Level III or above
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.

KINESIOL 3S33 BODY, MIND, SPIRIT
An exploration of the relationship between body, mind and spirit from the standpoint of eastern and western religious and philosophical thought with special reference to current perspectives on human potential. Course work includes experiential workshops.
Three hours (lectures and seminars); one term
Prerequisite: Registration in Level III or above
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.
KINESIOL 3T03  DANCE PERFORMANCE  
An in-depth practical experience in performing, choreographing and teaching aimed at experienced dancers. This course will have a focus on creative modern dance and dance composition but will also include an introduction to other styles such as jazz and ballet.  
Four hours (seminars and labs); one term  
Prerequisite: Registration in Level III or above  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.  
(Approximate cost of field component is $30.00.)

KINESIOL 3Y03  HUMAN NUTRITION AND METABOLISM  
An in-depth analysis of human nutrition and metabolism, with an emphasis on the impact of diet on human physical performance in both healthy and disease states.  
Three hours (lectures and labs); one term  
Prerequisite: Either KINESIOL 1A06 or 1X06, or both KINESIOL 1Y03 and 1Y3; and registration in Level III or above  
Antirequisite: KINESIOL 4Y03  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program. However, enrolment for such students is limited.

KINESIOL 4A06  ADVANCED BIOMECHANICS  
An in-depth study of the mechanics of human movement including the topics of multi-linked segment analysis in 3-D, fluid resistance, optimization, movement simulation and individual muscle force estimation with applications to occupational biomechanics, injury and rehabilitation.  
Three hours (lectures, labs), two terms  
Prerequisite: KINESIOL 2A03, 3A03

KINESIOL 4B03  PHYSICAL ACTIVITY AND CORONARY HEART DISEASE  
An examination of the role of physical activity in the prevention and rehabilitation of coronary heart disease.  
Three lectures; one term  
Prerequisite: KINESIOL 1A06, 2C06  
Offered in alternate years.  

KINESIOL 4B03  ERGONOMICS II: MECHANISM OF INJURY AND PREVENTION  
An investigation of injury mechanisms, injury epidemiology, job design considerations, WSIB, Ministry of Labour laws, job placement and functional abilities assessments. Students work in small groups to resolve ergonomic problems in the workplace.  
Two lectures, one lab; one term  
Prerequisite: KINESIOL 3M03

KINESIOL 4C03  INTEGRATIVE PHYSIOLOGY OF HUMAN PERFORMANCE  
A detailed analysis of the physiological factors that regulate human physical performance. Emphasis is placed on the body’s integrative response to exercise, including the control of energy demand and supply.  
Three hours (lectures, labs); one term  
Prerequisite: KINESIOL 2C08; or BIOLOGY 2A03 and registration in Honours Biology (Physiology Specialization)

KINESIOL 4C03  NEUROMUSCULAR EXERCISE PHYSIOLOGY  
Neuromuscular physiology of strength, power, and speed performance, including adaptations to training and training methods.  
Three hours (lectures, labs); one term  
Prerequisite: KINESIOL 2C08; or BIOLOGY 2A03 and registration in Honours Biology (Physiology Specialization)

KINESIOL 4D03  OUTDOOR EDUCATION  
An examination of skills, pedagogy and perspectives of outdoor (expeditionsary) education. This course involves a nine day field component before classes start  
Three hours (lectures, tutorials, field experiences); one term  
Prerequisite: Registration in Level III or above of a Kinesiology program; or registration in Level III or above of a non-Kinesiology program and permission of the instructor  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.  
(Approximate cost of field component is $380.00.)

KINESIOL 4E03  ADVANCED PLACEMENT  
Students take part in an supervised practical experience that links classroom knowledge to professional practice. Placements are offered in aging, cardiac rehabilitation, sports injuries, dance, management, outdoor education, special needs populations and teaching and coaching. Placement experience equivalent to one day per week (60 hrs.); seminars; one term  
Prerequisite: One of KINESIOL 3B03, 3F03, 3J03, 3K03, 3M03, 4B03, 4D03, 4I03, 4J03, 4S53; and registration in Level IV of a Kinesiology program; and permission of the supervising instructor  
Antirequisite: KINESIOL 4X06

KINESIOL 4F03  SELECTED TOPICS IN KINESIOLOGY  
Each year, the Department of Kinesiology offers a number of different courses under this category reflecting topics of contemporary interest with emphasis upon current theory and research. Students are advised to contact the Department of Kinesiology, Undergraduate Office, for descriptions of the courses offered during the current academic year.  
Three hours (lectures); one term  
Prerequisite: Registration in Level III or above of a Kinesiology program

KINESIOL 4F03  PEDAGOGY OF CONTEMPORARY AND TRADITIONAL WILDERNESS TRAVEL  
An examination of Canadian winter travel skills (traditional and contemporary), travel literature and pedagogy of travel guiding. Part of the course requirement is a mandatory five-day traditional winter travel experience during the February mid-term recess.  
Three hours (lectures, tutorials, field experiences); one term  
Prerequisite: KINESIOL 4F03 and registration in Level III or above  
This course may be taken as elective credit by undergraduates in Level III or above of a non-Kinesiology program.  
(Approximate cost of field component is $80.00.)

KINESIOL 4G03  CLINICAL BIOMECHANICS  
This course examines current research in clinical biomechanics relating to injury and rehabilitation mechanisms, properties of material implants and application, and normal and clinical gait analysis.  
Two lectures, one lab; one term  
Prerequisite: KINESIOL 3A03

KINESIOL 4I03  EXERCISE PSYCHOLOGY  
This course examines the interaction of psychological factors and participation in physical activity with a focus on research, promotion and maintenance of exercise participation and health outcomes.  
Three hours (lectures/tutorials); one term  
Prerequisite: KINESIOL 2G03 and registration in Level III or above of a Kinesiology program

KINESIOL 4J03  FUNCTIONAL ANATOMY  
A hands-on applied study of functional anatomy for independent learners. The focus is on palpating the structures of the osseous, articular, muscular, and supportive systems and testing their functions.  
Four hours (labs, located in WGC224); one term  
Prerequisite: KINESIOL 2C08, 3K03 and registration in Level III or above of a Kinesiology program  
(Approximately $35.00 will be charged for supplies used in labs.)  
Not open to students with credit in KINESIOL 4F03 if the topic was Functional Anatomy.

KINESIOL 4K03  ADVENTURES IN PERCEPTION AND ACTION  
The examination of perception and action of everyday skills is discussed using a problem-based approach. The emphasis is on the discovery of principles through the generation of research methods and hypothesis testing.  
Three hours (lectures, labs); one term  
Prerequisite: KINESIOL 1E03 and registration in Level III or above of a Kinesiology program

KINESIOL 4K03  FUNDAMENTALS OF REHABILITATION  
This course will outline the basic principles of rehabilitation and explore the more common techniques and modalities. Application of principles will be explored in a number of impairments including acquired brain injury, amputee, spinal cord injury, neuromuscular disease, stroke, etc.  
Three hours (lectures, lab); one term  
Prerequisite: KINESIOL 1A06, 2C06 and registration in Level III or above of a Kinesiology program
**LABOUR STUDIES**

**WEB ADDRESS:** http://socserv.mcmaster.ca/labourstudies/

Kenneth Taylor Hall, Room 717
Ext. 24692

**Faculty as of January 15, 2007**

**Director**
Charlotte Yates

**Professors**
Wayne Lewchuk(Economics) B.A., M.A. (Toronto), Ph.D. (Cambridge)
and Charlotte A. B. Yates(Political Science) B.A. (Winnipeg), M.A. (Queen's), Ph.D. (Carleton)

**Associate Professors**
Donna Baines(Social Work) B.S.W. (Calgary), M.S.W. (Carleton), Ph.D. (Toronto)
Robert H. Storey(Sociology) B.A. (Toronto), M.A. (Dalhousie), Ph.D. (Toronto)
Donald M. Wells(Political Science) B.A. (Western Ontario), M.A. (British Columbia), Ph.D. (Toronto)

**Assistant Professors**
David Goutoi(History) B.A., M.A., Ph.D. (Toronto)
Greg McElligott(Political Science) B.A., M.A. (Carleton), Ph.D. (York)

**Associate Members**
Patricia M. Daenzer(Social Work) B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)
Robert J. Brien(Political Science) B.A. (Carleton), M.Sc. (London), Ph.D. (York)
Joseph B. Rose(Commerce) B.B.A. (Adelphi), M.B.A. (California), Ph.D. (SUNY-Buffalo)/Industrial Relations

Pamela Sugiman(Sociology) B.A., M.A., Ph.D. (Toronto)

**Note:**
The following courses may be taken for elective credit by qualified students registered in any program, however, space for such students is limited and permission of the instructor is required.

**LABR ST 2A03**
Unions

**LABR ST 2C03**
Theoretical Foundations of the Labour Movement

**LABR ST 2E03**
Working in the 21st Century: Challenges and Possibilities

**LABR ST 3A03**
Economics of Labour Market Issues

**LABR ST 3C03**
Labour Law and Policy

**LABR ST 3D03**
Occupational Health and Safety

**LABR ST 3E03**
Women, Work and Unionism

**LABR ST 3F03**
Selected Topics in Labour Studies

**LABR ST 3G03**
Economic Restructuring and Work Organization

**LABR ST 3J03**
Independent Study

**LABR ST 3W03**
Technologies at Work: Past, Present, Future

The Honours B.A. Program and the B.A. Program in Labour Studies are supervised and coordinated by an interdisciplinary Labour Studies Committee.

**Labour Studies Committee**

**Chair**
Charlotte Yates(Labour Studies/Political Science)

Donna Baines (Labour Studies/Social Work)
David Goutoi(Labour Studies)
Wayne Lewchuk/Economics/Labour Studies
Greg McElligott (Labour Studies/Political Science)
Robert Storey (Labour Studies/Sociology)
Donald Wells (Labour Studies/Political Science)

**Courses**

If no prerequisite is listed, the course is open.

**LABR ST 1A03**
An Introduction to the Canadian Labour Movement

An examination of the impact of economic, social, cultural and political factors on the historical evolution, structure and actions of the Canadian working class and labour movement.

Lectures and discussions; one term
LABR ST 1C03 VOICES OF WORK, RESISTANCE AND CHANGE
An examination of how work is shaped by gender, race, class and culture in a global world; how workplace cultures of community and resistance are built; and their effect on our experience of work. Lectures and discussion; one term
Antirequisite: LABR ST 2D03

LABR ST 2A03 UNIONS
Examines unions’ structure, internal decision making and economic, political and social environment. Students explore collective bargaining, political action, union democracy, diversity and renewal by simulating internal union life and participating in a union convention. Lecture and group work/simulation; one term
Prerequisite: Registration in a Labour Studies program or permission of the instructor

LABR ST 2B03 SOCIAL WELFARE: GENERAL INTRODUCTION
Purpose, values underlying development of social welfare programs; Canada’s social security system in historical perspective. Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies program
Cross-list: SOC WORK 2B03
Students in a Labour Studies program must register for this course as LABR ST 2B03. This course is administered by the School of Social Work.

LABR ST 2BB3 SOCIAL WELFARE: ANTI-OPPRESSIVE POLICIES AND PRACTICES IN SOCIAL WORK
Exploration and analysis of systematic patterns of oppression, their relationships to social policies and practice and the implications for social work through a variety of instruction including experiential exercises. Topics could include: race, gender, disability, sexual orientation. Exercises, lectures and discussion; one term
Prerequisite: Registration in a Labour Studies Program
Cross-list: SOC WORK 2BB3
Students in a Labour Studies program must register for this course as LABR ST 2BB3. This course is administered by the School of Social Work.

LABR ST 2C03 THEORETICAL FOUNDATIONS OF THE LABOUR MOVEMENT
An examination of political, sociological and economic explanations of labour behaviour in industrial society. The focus will be on attempting to explain why labour has tended to organize as well as the different strategies which labour has pursued to achieve its goals. Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies program or permission of the instructor
Antirequisite: LABR ST 1B03

LABR ST 2E03 WORKING IN THE 21ST CENTURY: CHALLENGES AND POSSIBILITIES
An examination of how technology, government regulation and social and political activism influence how work is performed in the 21st century. Lectures and discussion; one term
Prerequisite: Registration in a Labour Studies program or permission of the instructor
Antirequisite: LABR ST 1Z03

LABR ST 2G03 LABOUR AND GLOBALIZATION
An examination of key themes in the political economy of contemporary globalization with particular emphasis on implications for worklife, working class politics and democracy. An introduction to major international economic institutions and processes associated with globalization and emerging forms of labour internationalism that contest globalization. Lectures and discussion; one term
Prerequisite: LABR ST 1C03
Priority is given to students registered in a Labour Studies program.

LABR ST 3A03 ECONOMICS OF LABOUR MARKET ISSUES
This course applies economic analysis to issues of importance in the labour market. Topics vary and may include: women in the Canadian labour market, discrimination in hiring and promotion, unemployment, job loss and workplace closing, work sharing. Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3 and registration in a Labour Studies program; or permission of the instructor
Cross-list: ECON 2A03
Not open to students with credit or registration in ECON 3D03. This course is administered by the Department of Economics.

LABR ST 3B03 ECONOMICS OF TRADE UNIONISM AND LABOUR
Topics will include the economics of the labour market, the impact of trade unions on the labour market, economic theories of strikes, trade unions and the state. Lectures and discussion; one term
Prerequisite: ECON 1A06 or both ECON 1B03 and 1BB3; and registration in a Labour Studies program
Cross-list: ECON 2TC03
This course is administered by the Department of Economics.

LABR ST 3C03 LABOUR LAW AND POLICY
An analysis of the concepts and fundamentals of Canadian labour law and an analysis of Canadian labour policy. Lectures; one term
Prerequisite: LABR ST 2A03, and registration in a Labour Studies program; or permission of the instructor
Cross-list: COMMERCE 4BF3
Generally offered in alternate years.

LABR ST 3D03 OCCUPATIONAL HEALTH AND SAFETY
An analysis of issues and problems associated with occupational health and safety in Canada and other industrialized countries. Topics will be examined from social, political, economic, legal and medical perspectives. Lectures and discussion; one term
Prerequisite: Registration in Level III or above of a Health Studies or Labour Studies program or permission of the instructor
Cross-list: HEALTHST 3C03
Generally offered in alternate years.

LABR ST 3E03 WOMEN, WORK AND UNIONISM
An examination of the historical and contemporary relations between women and work, and women and unionism. Topics will include the evolution and structure of the gender division of labour, women and the labour market, and the relationship of women to the labour movement. Lectures and discussion; one term
Prerequisite: LABR ST 2A03 and registration in a Labour Studies program; or permission of the instructor
Generally offered in alternate years.

LABR ST 3F03 SELECTED TOPICS IN LABOUR STUDIES
Topics of current interest to students in Labour Studies, with emphasis on current theory and research. Students should consult the Labour Studies Office concerning the topics to be examined. Three hours (seminar); one term
Prerequisite: LABR ST 2A03, and registration in a Labour Studies program; or permission of the instructor
LABR ST 3F03 may be repeated, if on a different topic, to a total of six units. Generally offered in alternate years.

LABR ST 3G03 ECONOMIC RESTRUCTURING AND WORK ORGANIZATION
Analysis of transformations in work organization and labour markets in selected advanced capitalist societies; evaluation of labour strategies in the context of neoliberalism and globalization. Lectures and discussion; one term
Prerequisite: LABR ST 2A03, and registration in a Labour Studies program; or permission of the instructor
Antirequisite: LABR ST 3A03

LABR ST 3H03 FIELD PLACEMENT METHODS
An inquiry course that exposes students to research ethics and strategies in preparation for Level IV thesis or field work. Emphasizes working with data in a real world context. Students will learn on-line research skills and how to use Power Point and other presentation strategies. Lectures and discussion; one term
Prerequisite: Registration in Level III or IV of an Honours Labour Studies program
Antirequisite: LABR ST 4A09

LABR ST 3J03 INDEPENDENT STUDY
Independent study of a research problem to be arranged between student and instructor. It is incumbent on the student to secure arrangements with the supervising instructor and present a written proposal to the Director for approval prior to registration. One term
Prerequisite: Registration in Level III or IV of an Honours Labour Studies program and permission of the Director.
Linguistics and Languages

Course Descriptions

LABR ST 3W03 TECHNOLOGIES AT WORK: PAST, PRESENT, FUTURE
An inquiry based course exploring the evolution of work, how workplaces are organized in relation to technologies today, and the possible impacts of technology on work in the future. It will explore the nature of work in manufacturing, the service sector and the public sector.
Lectures, discussion and inquiry report; one term
Prerequisite: Registration in Level III or IV of a Labour Studies program
Antirequisite: ENGSCTY 3X03
Offered in alternate years.

LABR ST 4A09 RESEARCH AND FIELD EXPERIENCE
Students will either write an honours thesis or participate in a field experience (a placement in a labour union, government agency or other appropriate organization). Enrolment in the field experience option is limited; students must apply to the Labour Studies Office by March 1.
Two terms
Prerequisite: Registration in Level IV of an Honours Labour Studies program
Antirequisite: LABR ST 4A09

LABR ST 4C03 PUBLIC SECTOR COLLECTIVE BARGAINING
This course examines unionization and collective bargaining for employees in the public and para-public sectors. The topics covered include the origins and growth of public sector unions, models of public sector bargaining, legal aspects of bargaining rights and impasse resolution, bargaining issues and bargaining outcomes, and empirical studies of the effectiveness of dispute resolution procedures.
Lectures and discussion; one term
Prerequisite: COMMERCE 4B3 and registration in Level III or IV of a Labour Studies program
Cross-list: COMMERCE 4B3

This course is administered by the School of Business.

LABR ST 4E03 COMPARATIVE LABOUR SYSTEMS
A discussion of labour policies, politics, unionization and industrial relations in several selected countries in Europe, Latin America and possibly including Japan. Topics will include government labour market policy, labour law, union objectives and strategies and the impact that unions have on the respective national political-economies.
Lectures and seminar discussion; one term
Prerequisite: Registration in Level III or IV of a Labour Studies program or permission of the instructor
Antirequisite: COMMERCE 4B3, LABR ST 4D03

LATIN

(SEE CLASSICS, LATIN)

LINGUISTICS

(SEE LINGUISTICS AND LANGUAGES, LINGUISTICS)

LINGUISTICS AND LANGUAGES

WEB ADDRESS: http://www.humanities.mcmaster.ca/~linguistics/

Togo Salmon Hall, Room 613
Ext. 24368

Faculty as of January 15, 2007

Acting Chair
John J. Colanuso

Professors
Nina Kolesnikoff/M.A. (Moscow State), Ph.D. (Alberta)
Magda Stoiniska/M.A. (Warsaw), Ph.D. (Edinburgh)

Associate Professors
Iris Bruce/M.A., Ph.D. (Toronto)
Maria del C. Cerezo/B.A. (Pueio Rico), M.A. (McGill), Ph.D. (Toronto)
Fiorigio Minelli/B.A., M.A. (Western Ontario), Ph.D. (Brown)
Jean Wilson/B.A. (McMaster), B.Ed., M.A., Ph.D. (Toronto)

Assistant Professors
Catherine Anderson/B.A. (McMaster), Ph.D. (Northwestern)
Vittorina Ceccheto/B.A., M.A., Ph.D. (Toronto)
Paolo Chirumbolo/B.A., M.A., Ph.D. (Toronto)
Tsuneko Iwa/B.A., M.Ed., Ph.D. (Toronto)

Antirequisite: GERMAN 2203, 2223

Courses and programs in German are administered within the Department of Languages and the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

Notes:
1. Students should note that the Department has classified its German language courses under the following categories:
   Introductory Level Language Course
   GERMAN 1206
   Intermediate Level Language Courses
   GERMAN 1B03, 1B09, 2203, 2223
   Advanced Level Language Courses
   GERMAN 3203, 3223, 4C03, 4D03

2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
3. Courses cross-listed with other programs (GERMAN 3NN3, 4G03, 4J03) will use English as the language of classroom instruction. Students taking these courses for credit in German will be required to do all their reading, writing and film viewing in German.
4. Students may be required to take a placement test in the Department of Languages and Linguistics to assess their proficiency in the language.

Courses

If no prerequisite is listed, the course is open.

GERMAN 1B03 INTERMEDIATE GERMAN I
A course designed to expand German linguistic skills through practice in reading, writing, listening and speaking, promoting intercultural learning and international awareness. Course uses Web CT and multimedia technology.
Four hours; one term
Prerequisite: Grade 12 U or M equivalent
Antirequisite: GERMAN 2203, 2223

Not open to students with credit or registration in GERMAN 1BB3.
The Department reserves the right to place students in the course most appropriate to their abilities.

GERMAN 1B03 INTERMEDIATE GERMAN II
Through integrated and interactive practice in reading, writing, listening and speaking, this course is intended to serve as a foundation for the advanced study of German language and culture. The sequels to this course are GERMAN 3203 and 3223.
Four hours; one term
Prerequisite: GERMAN 1B03
Antirequisite: GERMAN 2223

GERMAN 1206 BEGINNER'S INTENSIVE GERMAN
This course enables students to communicate effectively and accurately in German. Using multimedia resources, students acquire the basics of German grammar and develop language skills in order to master everyday situations. The course is enhanced by the use of Web CT and multimedia technology. The sequence to this course is GERMAN 2203.
Four hours; two terms
Antirequisite: Grade 12 U or M equivalent, GERMAN 1Z03
Students who have credit in GERMAN 1206, but not in GERMAN 1Z03, will be permitted to take GERMAN 1206, however, they must relinquish credit in GERMAN 1203 to do so.

The Department reserves the right to place students in the course most appropriate to their abilities.
GERMAN 2AA3  INTRODUCTION TO GERMAN STUDIES
This course provides the foundation for work in German literature and in the broader field of German Studies. Theoretical approaches combined with the analysis of specific cultural texts, forms and practices will allow students to experience the 'pleasure of the text' and help them to develop analytical and research tools.
Three hours; one term
Prerequisite: GERMAN 1BB3 or 2Z23, (or concurrent registration in GERMAN 2203 or 2Z23)

GERMAN 2CC3  GERMANY THROUGH THE AGES: CULTURE AND SOCIETY
An interdisciplinary look at the historical events, cultural phenomena, and personalities which have shaped German culture and society until World War II. Topics include: Medieval and Romantic Heritage, the Golden Twenties, Nationalism and National Socialism, the Holocaust.
Three hours; one term
Prerequisite: GERMAN 1BB3 or 2Z23 (or concurrent registration in GERMAN 2203 or 2Z23)

GERMAN 2Z23  INTERMEDIATE GERMAN I
The course is designed to further expand German linguistic skills through integrated and interactive practice in reading, writing, listening and speaking. The course is enhanced by the use of WebCT and multimedia technology. The sequel to this course is GERMAN 2Z23.
Three hours; one term
Prerequisite: GERMAN 1206 or 12Z3
Antirequisite: GERMAN 1BB3
Not open to students with credit or registration in GERMAN 2203 or 2Z23.
The Department reserves the right to place students in the course most appropriate to their abilities.

GERMAN 3BB3  INTERMEDIATE GERMAN II
Through integrated and interactive practice in reading, writing, listening and speaking, this course is intended to serve as a foundation for the advanced study of German language, literature and culture. The course is enhanced by the use of WebCT and multimedia technology. The sequels to this course are GERMAN 3Z23 and 3Z23.
Three hours; one term
Prerequisite: GERMAN 2203
Antirequisite: GERMAN 1BB3
The Department reserves the right to place students in the course most appropriate to their abilities.

GERMAN 3BB3  GLOBALIZATION AND AUTONOMY: GERMAN WAR NARRATIVES FROM THE EIGHTEENTH CENTURY TO THE PRESENT
The course focuses on images of war in German culture and investigates the role of the literary and visual representations of military conflicts in the processes of globalization and autonomy.
Three hours; one term
Prerequisite: GERMAN 2A3 or 2CC3

GERMAN 3C03  GERMAN CULTURE AFTER 1945
This course will explore the culture of modern Germany from 1945 to the present. Students will study important cultural developments by examining selected texts from literature, film and other forms of cultural expression.
Three hours; one term
Prerequisite: GERMAN 2A3 or 2CC3

GERMAN 3E03  WOMEN IN GERMAN LITERATURE AND CULTURE
This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe. (See Note 2 above.)
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 3E03, WOMEN ST 3E03
Offered in alternate years.

GERMAN 3Z23  ADVANCED GERMAN I
This course offers an action-oriented approach to language and literature. Students read various texts and explore their deeper meanings using various techniques. The sequel to this course are GERMAN 3Z23 and 4Z23.
Three hours; one term
Prerequisite: GERMAN 1BB3 or 2Z23
Antirequisite: GERMAN 3E03
The Department reserves the right to place students in the course most appropriate to their abilities.

GERMAN 3Z23  ADVANCED GERMAN II
This course offers an action-oriented approach to language and literature by means of drama instruction leading to the performance of a German play in public. The sequel to the course is GERMAN 4Z23.
Three hours; one term
Prerequisite: GERMAN 3Z23
Antirequisite: GERMAN 3G03
Priority is given to students in a program requiring German. Students with native or near native fluency may be required to register in an appropriate alternative.
The Department reserves the right to place students in the course most appropriate to their abilities.

GERMAN 4B03  GERMAN READING COURSE
(TAUGHT IN ENGLISH)
Designed for graduate students or students intending to enter graduate programs, this course provides an intensive introduction to reading comprehension skills and techniques. Reading materials will be selected to reflect students' specialized interests and will be used to practice textual analysis, study relevant grammar points and aid in vocabulary development. The sequel for this course is GERMAN 4CC3. Credits obtained in both of these courses may be accepted in fulfillment of the second language reading requirement for graduate programs.
Offered during the Spring session only.
Prerequisite: GERMAN 1206 and permission of the Department of Linguistics and Languages.
Not open to students registered in a program in German.

GERMAN 4CC3  TRANSLATION: TECHNIQUES AND PRACTICE
This course offers practice in the translation of literary and non-literary texts. (English to German and German to English). The practical component will be complemented by an overview of electronic and on-line translation aids, as well as different theories and techniques of translation in Western Culture.
Three hours; one term
Prerequisite: One of GERMAN 3E03, 3Z23 or 4Z23

GERMAN 4FF3  GERMAN FOLKLORE AND FAIRY TALES
The course will examine elements of folklore and the supernatural in fairy tales from various periods: tales from German Romanticism, and modern twentieth-century (parodic) rewritings of the tradition. The boundaries between oral folk literature and literature, as well as between children's and adult literature will also be examined.
Three lectures; one term
Prerequisite: GERMAN 2A3 or 2CC3
Alternates with GERMAN 4H03.

GERMAN 4G03  BERLIN/VIENNA: THE CULTURAL LIFE OF A CITY
Students will embark on an interdisciplinary journey into the cultural history of a city from the 19th century to the present. Through literary texts, songs, films, works of art and architecture we will examine varied representations of the city in high and popular culture. (See Note 3 above.)
Three hours; one term
Prerequisite: Registration in Level III or IV
Cross-list: COMP LIT 4G03
Offered on an irregular rotation basis.

GERMAN 4H03  THE HOLOCAUST IN GERMAN FILM AND FICTION
This course will examine the moral, philosophical and cultural legacy of the Holocaust as represented through the artistic imagination. Literary texts and films will involve key issues: truthfulness, politicization, marginalization, universalization, trivialization, abstraction, aestheticization, Holocaust, etc.
Three hours; one term
Prerequisite: GERMAN 2A3 or 2CC3
Offered on an irregular rotation basis.

GERMAN 4H13  GERMAN LANGUAGE THROUGH THE AGES
The course follows the development of the German language from its Indo-European origins to the present situation in three German speaking countries. Selected texts from different epochs, as well as visual materials on the linguistic and social history of the German language will be studied.
Three lectures; one term
Prerequisite: Nine units of German above Level I
Alternates with GERMAN 4F03.
GERMAN 413  INDEPENDENT STUDY
The student will prepare under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.
Prerequisite: 12 units of German above Level I and permission of the Department

GERMAN 4J03  THE SPLIT-SCREEN - RECONSTRUCTING NATIONAL IDENTITIES IN WEST AND EAST GERMAN CINEMA
This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social, and cultural developments at the time of the films' production. (See Note 3 above.)
Two hours, plus one film screening per week; one term
Prerequisite: Six units of German above Level I
Cross-list: COMP LIT 4J03; THTRSFLM 4J03
Offered on an irregular rotation basis.

GERMAN 4K03  FRANZ KAFKA AND 'MINOR LITERATURE' IN CONTEMPORARY GERMAN CULTURE
Students will inquire into some of the reasons for Kafka's popularity in contemporary culture and examine how themes of marginality, power, and identity - central to Kafka's work - re-emerge in contemporary German Jewish and Turkish writing.
Three lectures; one term
Prerequisite: GERMAN 2AA3 or 2CC3
Offered on an irregular rotation basis.

GERMAN 4Z03  GERMAN LANGUAGE AND CULTURE
This course further develops students' language proficiency and their cultural knowledge/competency. Students study various aspects of contemporary German society and focus on developing advanced reading, writing and speaking skills.
Three hours; one term
Prerequisite: GERMAN 3G03 or 3Z23

HISPANIC STUDIES ...
Courses and programs in Hispanic Studies are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Tego Salmon Hall, Room 613.

Notes:
1. Students should note that the Department has classified its Hispanic language courses under the following categories:
   Introductory Level Language Course
   HISPANIC 1Z06
   Intermediate Level Language Courses
   HISPANIC 1A03, 1AA3, 1D03, 2DD3, 2203, 2223
   Advanced Level Language Courses
   HISPANIC 2X03, 3Y03, 4X03, 4Y03
   2. Not all courses are offered on an annual basis. Students should consult the timetable for available courses.
   3. Students may be required to take a placement test in the Department of Linguistics and Languages to assess their proficiency in the language.
   4. Students are advised to pay particular attention to prerequisites for upper-level literature courses.

Courses  If no prerequisite is listed, the course is open.

HISPANIC 1A03  INTERMEDIATE SPANISH I
First part of an intensive review of grammatical structures in Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 1A03.
Four hours; one term
Prerequisite: Grade 12 U or M equivalent
Antirequisite: HISPANIC 2D03, 2DD3, 2Z23
Not open to native speakers of Spanish.
The Department reserves the right to place students in the course most appropriate to their abilities.

HISPANIC 1AA3  INTERMEDIATE SPANISH II
Second part of an intensive review of grammatical structures in Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 2X03.
Four hours; one term
Prerequisite: HISPANIC 1A03, 1AA3, 2DD3, 2203
Antirequisite: HISPANIC 1D03, 2DD3, 2Z23
Not open to native speakers of Spanish.
The Department reserves the right to place students in the course most appropriate to their abilities.

HISPANIC 1Z06  BEGINNER'S INTENSIVE SPANISH
This course gives students the ability to express themselves reasonably well in Spanish and acquire the basics of Spanish grammar and considerable reading skill. Small tutorial groups will ensure maximum participation by each student. This course is enhanced by a Computer Assisted Language Learning (CALL) module. The sequel to this course is HISPANIC 2Z03.
Four hours; two terms
Prerequisite: Grade 12 U or M equivalent, HISPANIC 1Z23, 2D03, 2DD3
Not open to native speakers of Spanish.
Students who have credit in HISPANIC 1Z03, but not in HISPANIC 1Z23, will be permitted to take HISPANIC 1Z06; however, they must relinquish credit in HISPANIC 1Z03 to do so.
The Department reserves the right to place students in the course most appropriate to their abilities.

HISPANIC 2C03  CONTEMPORARY SPANISH-AMERICAN CULTURE
Using a multidisciplinary approach involving fiction, cinema, music, art, and other cultural expressions, this course explores some of the issues that shape and define Spanish-America today.
Three hours; one term
Prerequisite: One of HISPANIC 1AA3, 2DD3, 2Z23 or concurrent registration in HISPANIC 2Z03

HISPANIC 2D03  INTENSIVE SPANISH FOR NATIVE SPEAKERS I
First part of a course designed to meet the needs of native Spanish-speaking students who have little or no formal training in Spanish. Emphasis on grammar and composition. The sequel to this course is HISPANIC 2D23.
Three hours; one term
Prerequisite: HISPANIC 1A03, 1AA3, 1Z06, 2203, 2223

HISPANIC 2D23  INTENSIVE SPANISH FOR NATIVE SPEAKERS II
Second part of a course designed to meet the needs of native Spanish-speaking students who have little or no formal training in Spanish. Emphasis on grammar and composition.
Three hours; one term
Prerequisite: HISPANIC 1AA3, 2DD3, 2203, 2223

HISPANIC 2X03  CONTEMPORARY SPAIN
Drawing on art, film, literature and mass media, the course will explore the culture, society and political institutions of Spain from the civil war to the foundations of the European Union.
Three lectures; one term
Prerequisite: One of HISPANIC 1AA3, 2DD3, 2Z23 or concurrent registration in HISPANIC 2Z03

HISPANIC 2ZZ3  SPAIN IN THE WESTERN TRADITION
Drawing on literature, history, philosophy and the visual arts, this course will explore some of Spain's unique and enduring contributions to the Western tradition.
Three lectures; one term
Prerequisite: HISPANIC 1AA3; or HISPANIC 2X03 and 22Z3

HISPANIC 32Z3  INTERMEDIATE SPANISH I
First part of an intensive review of the grammatical structures of Spanish. Emphasis will be on composition, expansion of vocabulary and oral practice. Written works in the original will be studied. The sequel to this course is HISPANIC 2ZZ3.
Four hours; one term
Prerequisite: HISPANIC 1206 or 1Z23
Antirequisite: HISPANIC 1A03, 1AA3, 2DD3, 2Z23
Not open to native speakers of Spanish.
The Department reserves the right to place students in the course most appropriate to their abilities.
HISPANIC 2ZZ3    INTERMEDIATE SPANISH II
Second part of an intensive review of grammatical structures of Span-
ish. Emphasis will be on composition, expansion of vocabulary and oral
practice. Written works in the original will be studied. The sequel to this
course is HISPANIC 3X03.
Four hours; one term
Prerequisite: HISPANIC 2203
Antirequisite: HISPANIC 1AA3, 2D03, 2DD3
Not open to native speakers of Spanish.
The Department reserves the right to place students in the course most
appropriate to their abilities.

HISPANIC 3X03    LANGUAGE PRACTICE I
In this course different styles of writing and communication will be exam-
inued and practiced: literary, journalistic, academic, etc.
Three hours; one term
Prerequisite: One of HISPANIC 1AA3, 2D03 or 2ZZ3
Antirequisite: HISPANIC 3A03, 3DD3

HISPANIC 3Y03    SPANISH TRANSLATION
A course designed to introduce the student to the basic principles of
translation from Spanish to English and from English to Spanish. Practice
will be given in comprehension and précis writing.
Three hours; one term
Prerequisite: One of HISPANIC 1AA3, 2D03 or 2ZZ3
Antirequisite: HISPANIC 4G03

HISPANIC 4A03    THE SPANISH AMERICAN NOVEL
(BEFORE 1954)
A study of the Spanish American Novel up to the middle of the 20th
century (Azuela, Gallegos, Alegria, etc.).
Three lectures; one term
Prerequisite: HISPANIC 2L03 and six units of Hispanic Studies above Level I
Offered in alternate years.

HISPANIC 4D03    HUMOUR IN LATIN AMERICAN LITERATURE
This course will study different theories of humour and its techniques
and functions in representative literary texts from Latin America.
Three hours; one term
Prerequisite: HISPANIC 2L03 and nine units of Hispanic Studies above Level I

HISPANIC 4I03    INDEPENDENT STUDY
The student will prepare, under the supervision of a faculty member, a
research paper involving independent study in an area in which the
student has demonstrated competence.
Prerequisite: 12 units of Hispanic Studies above Level I and permission of
the Department

HISPANIC 4L03    SPAIN'S GREAT MYTHS: DON QUIJOTE AND DON JUAN
An examination of the original texts and of the subsequent interpreta-
tions and adaptations of two of Spain's most enduring creations: one
presents all the dramatic paradigms of life, the other embodies eternal
conflicts that centre on the purpose of life itself.
Three hours; one term
Prerequisite: HISPANIC 4L03 and six units of Hispanic Studies above Level I
Offered on an irregular rotation basis.

HISPANIC 4M03    HEROES AND ANTI-HEROES
IN SPANISH LITERATURE
The course will examine these two concepts in works ranging from Poema
de Mio Cid - the quintessential Spanish hero- to Celestina - the bawd- and
the picaresque, from Don Quijote to the tragedy of the ignoble.
Three hours; one term
Prerequisite: HISPANIC 4L03 and nine units of Hispanic Studies above Level I
Offered on an irregular rotation basis.

HISPANIC 4P03    THE BOOM GENERATION AND THEIR SHORT STORIES
This course will study the concept "Boom" and the short stories of four of
its members: Donoso, Cortázar, Vargas Llosa and García Márquez. It
will also examine the relation between the short stories and the novels of
these authors.
Three hours; one term
Prerequisite: HISPANIC 2L03 and nine units of Hispanic Studies above Level I
Not open to students with credit in HISPANIC 4S03, TOPICS IN SPAN-
ISH-AMERICAN LITERATURE, if the topic was The Boom Generation.
Offered on an irregular rotation basis.

HISPANIC 4Q03    SPANISH AND LATIN AMERICAN CULTURE THROUGH CINEMA
This course is designed to provide students with the background neces-
sary to analyse and interpret Spanish and Latin American culture through
films. Films will be studied within their social and political context.
Three hours; one term
Prerequisite: HISPANIC 2C03 or 2L03; and nine units of Hispanic Studies above Level I
Offered on an irregular rotation basis.

HISPANIC 4R03    WOMEN WRITERS OF LATIN AMERICA
Emphasis will be on women writers of the 19th and 20th centuries. Selected
readings will be analysed to explore how women have em-
ployed literary strategies to represent themselves and others within their
oppressive socio-cultural milieu.
Three hours; one term
Prerequisite: HISPANIC 2C03 or 2L03; and nine units of Hispanic Studies above Level I
Offered on an irregular rotation basis.

HISPANIC 4V03    REPRESENTATIVE DRAMATISTS
OF 20TH-CENTURY SPAIN
Recurrent themes such as exile, political oppression, issues of gender
identity, race and feminism will be examined in major important works
written by men and women from Spain
Three hours; one term
Prerequisite: HISPANIC 2X03 or 2XX3; and nine units of Hispanic Studies above Level I
Offered on an irregular rotation basis.

HISPANIC 4X03    LANGUAGE PRACTICE II
With emphasis on precision, conciseness and other pertinent aspects of
written communication, students will write compositions in a variety of
styles while developing appropriate stylistic awareness and learning
practical writing techniques.
Three hours; one term
Prerequisite: HISPANIC 3K03

HISPANIC 4Y03    ADVANCED TRANSLATION
Practice in the translation into Spanish of a specialized nature (example:
administration, business, medical, etc.), leading to the study of compara-
tive aspects of styles and syntax.
Three hours; one term
Prerequisite: HISPANIC 3Y03

ITALIAN

Courses and programs in Italian are administered within the Department of
Linguistics and Languages of the Faculty of Humanities. For information
and counselling, please contact the departmental office, Togo Salmon
Hall, Room 613.

Notes:
1. Students should note that the Department has classified its Italian
language courses under the following categories:
   Introductory Level Language Courses
ITALIAN 1Z06, 1Z26
   Intermediate Level Language Courses
ITALIAN 1A03, 1AA3, 2Z03, 2Z23
   Advanced Level Language Courses
ITALIAN 3A03, 3D03, 4A03, 4B03
2. Not all courses are offered on an annual basis. Students should consult
   the timetable for available courses.
3. ITALIAN 2603 will use English as the language of classroom instruc-
tion. Students taking this course for credit in Italian will be required to
do all their reading, writing and film viewing in Italian.
4. Students may be required to take a placement test in the Department of
   Linguistics and Languages to assess their proficiency in the language.
Courses

ITALIAN 1A03: INTERMEDIATE ITALIAN I
An intensive review of certain grammatical structures of Italian and an introduction to composition, together with oral practice. The sequel to this course is ITALIAN 1A03. Four hours; one term
Prerequisite: Grade 12 U or M equivalent or other equivalent or permission of the Department
Antirequisite: ITALIAN 2203
Not open to students with credit or registration in ITALIAN 1A03.
The Department reserves the right to place students in the course most appropriate to their abilities.

ITALIAN 1A03: INTERMEDIATE ITALIAN II
An intensive review of those grammatical structures not studied previously, together with oral practice. Selected written works in the original will also be studied. The sequel to this course is ITALIAN 3A03. Four hours; one term
Prerequisite: ITALIAN 1A03
Antirequisite: ITALIAN 2223
The Department reserves the right to place students in the course most appropriate to their abilities.

ITALIAN 2B03: ITALY THROUGH THE CAMERA LENS
This course takes the student on a journey through fifty years of Italian cinematic history using nine movies (in Italian, with subtitles) that represent some of the most critical moments related to Italian culture in post WW II period. (See Note 3 above.) Four hours; one term
Prerequisite: ITALIAN 2Y03 or ITALIAN 2Z03 (or concurrent registration in ITALIAN 2Y03)
Cross-list: THTR&FLM 2103

ITALIAN 2F03: INTRODUCTION TO THE STUDY OF LITERATURE: IL NEOREALISMO
An introduction to the study of literature in Italian, focusing on the neorealist movement in literature and also in cinema. The course explores principal themes in connection to the socio-historical and political context.
Three lectures; one term
Prerequisite: ITALIAN 1A03 or 2C03 or 2D03

ITALIAN 2I03: ITALY THROUGH THE AGES I: THE ORIGINS TO THE RENAISSANCE
A survey of representative works in Italian literature and culture from its origins to the Renaissance.
Three hours; one term
Prerequisite: ITALIAN 1A03 or 2Z03 (or concurrent registration in ITALIAN 2Y03)

ITALIAN 2203: INTERMEDIATE ITALIAN I
An intensive review of certain grammatical structures of Italian and an introduction to composition, together with oral practice. The sequel to this course is ITALIAN 2B03. Four hours; one term
Prerequisite: ITALIAN 1C03 or 1D06
Antirequisite: ITALIAN 1A03, 2Z03
The Department reserves the right to place students in the course most appropriate to their abilities.

ITALIAN 2223: INTERMEDIATE ITALIAN II
An intensive review of those grammatical structures not studied previously, together with oral practice. Selected written works in the original will also be studied. The sequel to this course is ITALIAN 3A03. Four hours; one term
Prerequisite: ITALIAN 2203
Antirequisite: ITALIAN 1A03
The Department reserves the right to place students in the course most appropriate to their abilities.

ITALIAN 3A03: ADVANCED GRAMMAR PRACTICE
This course is designed to improve the student's written and oral proficiency through exercises, compositions, and analysis of texts. The sequel to this course is ITALIAN 3D03. Three hours; one term
Prerequisite: ITALIAN 3A03

ITALIAN 3I03: ITALY THROUGH THE AGES II: FROM THE BAROQUE TO THE 20TH CENTURY
A continuation of Italian 2I03. Along with a study of representative literary texts from the Baroque to the 20th century, the course will also consider fundamental aspects of Italian culture (history, figurative arts, music).
Three hours; one term
Prerequisite: ITALIAN 2I03

ITALIAN 3J03: CONTEMPORARY ITALY: THE IMAGE OF ITALY TODAY
A study of current trends, literature, new directions, and art in Italy today, in the framework of the European consciousness and market.
Three lectures; one term
Prerequisite: ITALIAN 2F03 or 2I03
Offered in alternate years.

ITALIAN 3Y03: CULTURE AND SOCIETY IN RENAISSANCE ITALY
An exploration of Italian culture in the Renaissance and its impact on the development of modern European thought. Students will be introduced to Renaissance ideas on politics, history, society, the artist and the scientist through the study of representative works.
Three lectures; one term
Prerequisite: ITALIAN 2F03 or 2I03

ITALIAN 4A03: COMPOSITION AND STYLISTICS I
An introduction to the study of Italian stylistics through an intensive and systematic analysis of Italian clause, sentence, and discourse structure in the written and spoken language. The sequel to this course is ITALIAN 4B03. Four hours; one term

ITALIAN 4B03: COMPOSITION AND STYLISTICS II
An advanced course in composition and stylistics designed to develop the student's skills in critical writing and oral expression. The sequel to this course is ITALIAN 4D03. Three hours; one term
Prerequisite: ITALIAN 3D03
Antirequisite: ITALIAN 4M03

ITALIAN 4P03: INTRODUCTION TO TRANSLATION
A course designed to introduce the students to the basic techniques of translation from English to Italian and from Italian to English, including comparative stylistics. Translation materials will be selected from contemporary literary and journalistic sources.
Three hours; one term
Prerequisite: ITALIAN 4A03

ITALIAN 4Z03: INDEPENDENT STUDY
The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.
Prerequisite: 12 units of Italian above Level I and permission of the Department
ITALIAN 4X03  LOVE AND LIFE IN THE MIDDLE AGES
An exploration of Italian life and culture in the Middle Ages through the study of the *dolce stil nuovo* and selected works by Dante, Petrarch and Boccaccio.
Three lectures; one term
Prerequisite: ITALIAN 2F03 or 2103
Antirequisite: ITALIAN 3R03
Offered in alternate years.

ITALIAN 4X03  DANTE’S WORLD
An exploration of Dante’s *Commedia* in the context of medieval culture, politics and philosophy. The course will also consider the impact of the *Commedia* on Western thought.
Three lectures; one term
Prerequisite: ITALIAN 2F03 or 2103
Antirequisite: ITALIAN 3R03
Offered in alternate years.

ITALIAN 4YY3  RISORGIMENTO: THE ROMANTIC QUEST FOR A NATION
A study of Italian civilization and culture during the 19th century, focusing on the fundamental issues of Italian unification. Experiential artistic, cultural and literary representatives of the period will be examined.
Three lectures; one term
Prerequisite: ITALIAN 2F03 or 2103
Offered in alternate years.

JAPANESE ...

Japanese courses are administered within the Department of Linguistics and Languages of the Faculty of Humanities. The Combined Honours in Japanese Studies and Another Subject Program is coordinated by an interdisciplinary Committee of Instruction. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

Note:
Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

Courses  If no prerequisite is listed, the course is open.

JAPANESE 1Z06  BEGINNER’S INTENSIVE JAPANESE
Formerly: JAPANESE 1Z03 and 1Z23
An introduction to spoken and written Japanese focusing on developing proficiency in the skills of listening, speaking, reading and writing. Kanji (Chinese characters) will be introduced. Acquisition of basic grammar, hiragana and katakana scripts, and oral communication skills will be emphasized. Open to students with no prior background in Japanese.
The sequel to this course is JAPANESE 2Z03.
Four hours; two terms
Antirequisite: JAPANESE 1Z03, 1Z23
Students who have credit in JAPANESE 1Z03, but not in JAPANESE 1Z23, will be permitted to take JAPANESE 1Z06; however, they must relinquish credit in JAPANESE 1Z03 to do so.
The Department reserves the right to place students in the course most appropriate to their abilities.

JAPANESE 2Z03  INTERMEDIATE INTENSIVE JAPANESE I
This course develops students’ communicative skills in Japanese through conversational exercises, creative writing and other practices. Emphasis will be placed upon refining the knowledge of grammar and expanding vocabulary. The sequel to this course is JAPANESE 2Z23.
Four hours, one term
Prerequisite: A grade of at least B- in JAPANESE 1Z06 or 1Z23
Not open to students with credit in JAPANESE 2Z23.
The Department reserves the right to place students in the course most appropriate to their abilities.

JAPANESE 2Z23  INTERMEDIATE INTENSIVE JAPANESE II
This course further develops and consolidates the students’ communicative skills in Japanese through conversational exercises, creative writing and other exercises. The sequel to this course is JAPANESE 3A03.
Four hours; one term
Prerequisite: JAPANESE 2Z03
The Department reserves the right to place students in the course most appropriate to their abilities.

JAPANESE 3A03  ADVANCED INTENSIVE JAPANESE I
This course continues the study of written and spoken Japanese with particular attention devoted to the development of the following language skills: conversational practice based on situational drills; reading skills based on selected literary materials; writing short essays; and continued study of Kanji. The sequel to this course is JAPANESE 3A03.
Four hours; one term
Prerequisite: JAPANESE 2Z23
The Department reserves the right to place students in the course most appropriate to their abilities.

JAPANESE 3A03  ADVANCED INTENSIVE JAPANESE II
Emphasis is given to the development of situational conversational skills, advanced reading skills and essay writing skills. The sequel to this course is JAPANESE 4203.
Three hours; one term
Prerequisite: JAPANESE 3A03
The Department reserves the right to place students in the course most appropriate to their abilities.

JAPANESE 3B03  BUSINESS JAPANESE I
Three hours; one term
Prerequisite: JAPANESE 2Z23

JAPANESE 3C03  BUSINESS JAPANESE II
A continuation of JAPANESE 3B03. This course focuses on a further study of Japanese language in a context of Japanese business practices, values and customs. Oral and aural proficiency are emphasized.
Three hours; one term
Prerequisite: JAPANESE 3B03
Offered in alternate years.

JAPANESE 4A03  ADVANCED READINGS IN CURRENT AFFAIRS IN JAPANESE
This course will further develop students’ comprehensive skills in Japanese through readings of a variety of topics on current affairs. Readings of magazines will be combined with discussions on videos.
Three hours; one term
Prerequisite: JAPANESE 3A03

JAPANESE 4Z03  ADVANCED ORAL PRACTICE IN JAPANESE
This course will further develop students’ spoken discourse skills through viewing of videos, group discussions and cooperative group activities. Emphasis will be on overall communicative competence in oral Japanese.
Three hours; one term
Prerequisite: JAPANESE 3A03

JAPANESE STUDIES ...

Courses  If no prerequisite is listed, the course is open.

JAPAN ST 2A03  JAPANESE COMMUNICATION
This course looks at the Japanese language from sociolinguistic and pragmatic points of view identifying the unique characteristics of the target culture that lie behind its use. Such knowledge is invaluable in solving problems of intercultural communication.
Three hours; one term
Prerequisite: Registration in Level II or above
Antirequisite: CMST 2A03
Alternates with JAPAN ST 2F03.

JAPAN ST 2F03  THE CONTEMPORARY JAPANESE FILM
This course examines the development of Japanese films since the Second World War, including contemporary feature films and animations, exploring the rich legacy of directors such as Akira Kurosawa, Kon Ichikawa, Juzo Itami and Masayuki Suo, and animation directors such as Hayao Miyazaki and Isao Takahata.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: THTR&FLM 2H06
Alternates with JAPAN ST 2A03.

JAPAN ST 2P06  JAPANESE CIVILIZATION
Introduction to Japanese history, society, and culture through a study of religious traditions, literature, and art of Japan.
Two lectures, one tutorial; two terms
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 2P06
This course is administered by the Department of Religious Studies.
JAPAN ST 3B03  MODERN JAPAN
A survey of 19th- and 20th-century Japan, with emphasis on political developments, social change, and Japan’s relations with East Asia and the West.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 3B03
This course is administered by the Department of History.

JAPAN ST 3E03  JAPANESE RELIGION
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
One of RELIG ST 1B06, 2M06 or JAPAN ST 2P06 is recommended.
Cross-list: RELIG ST 3E03
This course is administered by the Department of Religious Studies.

JAPAN ST 3H03  STORYTELLING IN EAST ASIAN RELIGIONS
An in-depth study of selected examples of story literature in China and Japan with attention to the way religion is represented in them.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 2F03
This course is administered by the Department of Religious Studies.

JAPAN ST 3I03  THE EAST ASIAN RELIGIOUS TRADITION
Readings in East Asian religious texts in translation will centre around themes such as culture vs. nature, virtue vs. power, social responsibility vs. personal cultivation, bookish learning vs. meditation.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: ARTS & SCI 3E03, RELIG ST 3I03
This course is administered by the Department of Religious Studies.

JAPAN ST 3U03  BUDDHISM IN EAST ASIA
An examination of myth, history, doctrine, monastic culture, and ritual practice in East Asian Buddhism.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 3U03
This course is administered by the Department of Religious Studies.

JAPAN ST 4A08  GUIDED READING IN JAPANESE STUDIES
Independent study on an approved topic. A major essay and/or final examination will be required.
Two terms
Prerequisite: Registration in Level III or IV of the Combined Honours in Japanese Studies program and permission of the Director

JAPAN ST 4B03  GUIDED READING IN JAPANESE STUDIES
Independent study on an approved topic. A research essay and/or final examination will be required.
One term
Prerequisite: Registration in Level III or IV of the Combined Honours in Japanese Studies program and permission of the Director

JAPAN ST 4S03  JAPANESE BUSINESS
An introduction to Japan’s business system. The approach is integrative, as the course examines Japan’s economic history, culture, politics, industrial policy, management practices, advertising and doing business with Japan.
Prerequisite: Registration in a Commerce, Engineering and Management or Japanese Studies program
Cross-list: COMMERCE 4S03
This course is administered by the School of Business.

LINGUISTICS ... 

Linguistics courses and programs are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

Note:
Not all courses are offered on an annual basis. Students should consult the timetable for available courses.

Courses
If no prerequisite is listed, the course is open.

LINGUIST 1A03  INTRODUCTION TO LINGUISTICS I
This course provides an introduction to the field of linguistics, the scientific study of language. The focus will be on language structure, specifically the core areas of phonetics, phonology and morphology. Topics covered will be exemplified not only through English, but through a wide variety of languages.
Two lectures, one tutorial; one term

LINGUIST 1A03  INTRODUCTION TO LINGUISTICS II
This course is a continuation of LINGUIST 1A03, and completes the introduction to linguistics. Emphasis will be placed on syntax, semantics, typology, historical linguistics and applied linguistics.
Two lectures, one tutorial; one term
Prerequisite: LINGUIST 1A03

LINGUIST 2A03  HISTORICAL LINGUISTICS: THE DEVELOPMENT OF INDO-EUROPEAN LANGUAGES
The phonetic, morphological, syntactic and lexical structures of Indo-European languages and the role of these features in the genesis and development of the Indo-European-based languages of Europe.
Three lectures; one term
Prerequisite: LINGUIST 1A03, 1A04
Antirequisite: ANTHROP 2A03

LINGUIST 2E03  THE NATURE OF TEXTS: FROM SLANG TO FORMAL DISCOURSE
This course introduces students to the field of discourse analysis and investigates a variety of styles and registers from the conversational to the literary and from the journalistic to the academic.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: CMST 2E03
This course is administered by the Department of Linguistics and Languages.

LINGUIST 2L03  PHONETICS
A study of the sounds of language and human articulatory capabilities.
Three lectures; one term
Prerequisite: LINGUIST 1A03
Cross-list: ANTHROP 2L03
This course is administered by the Department of Linguistics and Languages.

LINGUIST 2L03  INTRODUCTION TO LINGUISTIC TYPOLOGY
The study of diversity in the languages of the world, language universals and the parameters of cross-linguistic analysis of grammatical systems.
Three hours; lectures and discussion; one term
Prerequisite: LINGUIST 1A03, 1A04
Cross-list: ANTHROP 2L03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3A03  PHONOLOGY
A study of the patterns of distinctive sounds in the world’s languages.
Three lectures; one term
Prerequisite: LINGUIST 2L03
Cross-list: ANTHROP 3A03
Antirequisite: ANTHROP 2M03, LINGUIST 2M03
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3B03  PSYCHOLINGUISTICS
The study of perception, production and acquisition of language. Special attention is paid to methods of psycho- and neurolinguistic research and to their connection with theoretical linguistics.
Three hours; one term
Prerequisite: LINGUIST 1A03 and 1A04 (or 1A05); or PSYCH 2H03
Cross-list: PSYCH 3B03
Alternates with LINGUIST 3C03.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3C03  CHILD LANGUAGE ACQUISITION
Language behaviour and development in children, from birth to school age. The course examines how data from children’s language acquisition can inform linguistic theory.
Three hours; one term
Prerequisite: LINGUIST 1A03; and LINGUIST 1A03 or PSYCH 2H03
Cross-list: PSYCH 3C03
Alternates with LINGUIST 3B03.
LINGUIST 3003 SYNTAX
The study of sentence structure in many languages. The emphasis is on using empirical data to test theoretical proposals.
Three hours; one term
Prerequisite: LINGUIST 1A03, 1AA3
Cross-list: ANTHROP 3103
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3103 SEMANTICS
The study of patterns of meaning in language; a critical survey of theories and issues.
Three hours; one term
Prerequisite: ANTHROP 3103 or LINGUIST 3103
Cross-list: ANTHROP 3113
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3003 PRAGMATICS
A discussion of the problems confronting the linguist in the study of text and discourse at the level beyond the sentence. The course will deal with the interaction between grammar and situational factors.
Three lectures; one term
Prerequisite: LINGUIST 1A03, 1AA3; or FRENCH 2103
Cross-list: CMST 3V03
Antirequisite: ANTHROP 3PL3
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 3X03 INTRODUCTION TO SOCIOLINGUISTICS
An introduction to sociolinguistics with particular emphasis on the social situation of the major European languages. Topics covered include linguistic variation (regional, social, situational), language and gender, language and disadvantage/power, language choice, language change, pidgin and creole languages.
Three lectures; one term
Prerequisite: LINGUIST 1A03, 1AA3
Cross-list: CMST 3G03
Antirequisite: ANTHROP 3X03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4B03 SECOND LANGUAGE ACQUISITION
The course examines empirical evidence and theoretical perspectives on language learning by adults.
Three hours; one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I
Cross-list: CMST 4C03
Antirequisite: ANTHROP 4B03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4D03 COMPUTERS AND LINGUISTIC ANALYSIS
This course studies the linguistic applications of computer technology in general, and language processing in particular, including parsers and machine translation.
Two lectures, one lab; one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I
Cross-list: CMST 4L03
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4E03 TESL (TEACHING ENGLISH AS A SECOND LANGUAGE): METHODOLOGICAL CONSIDERATIONS
This course will look at the phenomenon of TESL not only in the Canadian context but also worldwide. There will also be a detailed investigation of the dominant teaching methodologies associated with TESL.
Two lectures, one lab; one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I
Offered on an irregular rotation basis.

LINGUIST 4103 IMMIGRANT CONTACT LANGUAGES AND THE CREATION OF A NEW IDENTITY
This course will look at the genesis, characteristics and usage patterns of "immigrant contact languages" and the characteristics of the resultant "hyphenated" identity (i.e. Spanglish - Latino; Italo - Italo-Canadian).
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I
Offered on an irregular rotation basis.

LINGUIST 4113 INDEPENDENT STUDY
The student will prepare, under the supervision of a faculty member, a research paper involving independent study in an area where the student has already demonstrated competence.
Prerequisite: 16 units of Linguistics above Level I and permission of the Department.

LINGUIST 4L03 ADVANCED PHONETICS, PHONOLOGY AND MORPHOLOGY
This course examines advanced issues in phonetics, phonology and morphology, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is data oriented, with material taken from several languages of the Caucasus.
Three lectures; one term
Prerequisite: Nine units of Linguistics or Linguistic Anthropology above Level I
Cross-list: ANTHROP 4LA3, LINGUIST 4LA3
Antirequisite: ANTHROP 4L03
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4LC3 ADVANCED SYNTAX AND SEMANTICS
This course examines advanced issues in syntax and semantics, seeking to evaluate current theory and to address data that fall beyond the explanatory capacities of those paradigms. The course is data oriented, with material taken from several languages of the Caucasus.
Three lectures; one term
Prerequisite: Nine units of Linguistics or Linguistic Anthropology above Level I
Cross-list: ANTHROP 4LC3
Antirequisite: ANTHROP 4LA3, LINGUIST 4LA3
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4M03 PIDGINS AND CREOLES
A survey of the structure (grammar and vocabulary), genesis, evolution and social history of the languages that developed as a result of European expansion to Africa, the Americas, Asia and the Pacific. Emphasis will be placed on the Atlantic (Caribbean and West African) creoles.
Seminar (two hours); one term
Prerequisite: LINGUIST 3X03
Offered on an irregular rotation basis.

LINGUIST 4N03 ENGLISH AS A GLOBAL LANGUAGE
This course explores issues arising from the status of English as a language of international communication, including: the rise of English as a global language, world Englishes, linguistic power, consequences for multilingual societies, especially minority languages.
Seminar (two hours); one term
Prerequisite: LINGUIST 3X03
Offered on an irregular rotation basis.

LINGUIST 4R03 CROSS-CULTURAL COMMUNICATION
Students will explore the links between language and culture and learn skills necessary to be intermediaries between cultures. Topics include: communication between genders, the cognitive role of metaphor, language and perception, emotions across cultures, culture and advertising, body language and cultural stereotyping.
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I; or permission of the Department
Cross-list: CMST 4R03
Not open to students with credit in LINGUIST 4BB3, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Cross-Cultural Communication.
Offered on an irregular rotation basis.

LINGUIST 4S03 INTERPERSONAL COMMUNICATION
This course offers an introduction to contemporary interpersonal communication theories and research. Topics include: small group communication, persuasive communication, argumentation strategies, conflict resolution and computer mediated, intercultural, international and political communication.
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1AA3 and six units of Linguistics above Level I; or permission of the Department
Cross-list: CMST 4S03
Not open to students with credit in LINGUIST 4BB3, TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Interpersonal Communication.
Offered on an irregular rotation basis.

LINGUIST 4S03 SLP PRACTICUM
Observation in a professional speech pathology environment or involvement in a relevant research project, and completion of a paper related to experience. Experience must be approved by the Department prior to the commencement of the course.
One term
Prerequisite: Registration in Level IV of the Honours Linguistic Cognitive Science program and permission of the Department.
LINGUIST 4T03  FORENSIC LINGUISTICS
This course examines issues arising from the language-law interface, including: speaker/author identification; interpretation and transcription of police interrogations, witness statements, trial discourse; written legal language. Seminar (two hours); one term
Prerequisite: LINGUIST 3X03
Cross-list: CMST 4T03
Not open to students with credit in LINGUIST 4BB3. TOPICS IN THE APPLICATION OF LINGUISTICS, if the topic was Forensic Linguistics. Offered on an irregular rotation basis.

LINGUIST 4TE3  TESL PRACTICUM
Observation and instruction in a TESL classroom and completion of a paper based on experience. Experience must be approved by the Department prior to the commencement of the course.
One term
Prerequisite: Registration in Level IV of the Honours Linguistic Cognitive Science program and permission of the Department

LINGUIST 4X33  TOPICS IN LINGUISTIC THEORY
Issues in different aspects of Linguistic Theory and Advanced Philology. Consult the Department for the topic to be offered.
Seminar (two hours); one term
Prerequisite: LINGUIST 1A03, 1A3 and six units of Linguistics above Level I
Cross-list: ANTHROP 4X33
LINGUIST 4X33 may be repeated, if on a different topic, to a total of six units. Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4203  TOPICS IN PSYCHOLINGUISTICS
Topics include: First Language Acquisition; Brain and Language. Consult the Department for the topic to be offered.
Seminar (two hours); one term
Prerequisite: Any Level III course in Linguistics; or PSYCH 3BB3 or 3UU3
Cross-list: PSYCH 4Z03
LINGUIST 4203 may be repeated, if on a different topic, to a total of six units. Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

LINGUIST 4Z33  APPROACHES TO DISCOURSE
This course offers an overview of different approaches to the analysis of discourse, including speech act theory, interactional sociolinguistics, ethnography of communication, pragmatics, conversation analysis, and critical discourse analysis.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or IV of a program in Communication Studies or Linguistics or permission of the Program Counsellor for Communication Studies
Cross-list: CMST 4L03
This course is administered by the Department of Communication Studies and Multimedia.

POLISH ...
Courses in Polish are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

Notes:
1. Students should note that the Department has classified its Russian language courses under the following categories:
   Introductory Level Language Courses
   POLISH 2A03, 2AA3
   Intermediate Level Language Courses
   POLISH 3A03, 3AA3

2. POLISH 2A03 and 2AA3 are open only to students with a prior knowledge of Polish. Students with some knowledge of written and oral Polish are advised to enrol in POLISH 3A03 or 3AA3.

Courses
If no prerequisite is listed, the course is open.

POLISH 2A03  BEGINNER'S POLISH I
An introduction to basic conversational and written Polish, teaching the skills of listening, speaking, and writing. The sequel to this course is POLISH 2AA3.
Four hours; one term
Prerequisite: POLISH 1203
Not open to students with a prior knowledge of Polish.

POLISH 2AA3  BEGINNER'S POLISH II
A course designed to further the student's command of oral and written Polish. The sequel to this course is POLISH 3A03.
Four hours; one term
Prerequisite: One of POLISH 1203, 2A03 or permission of the Department

POLISH 2A03  INTERMEDIATE POLISH I
This course concentrates on the study of Polish grammar and develops skills for conversation, reading and writing. The sequel to this course is POLISH 3AA3.
Four hours; one term
Prerequisite: One of POLISH 12Z3, 2AA3

POLISH 3A03  INTERMEDIATE POLISH II
This course concentrates on the study of grammatical structures and rules of composition. It develops written and oral skills.
Four hours; one term
Prerequisite: POLISH 3A93

RUSSIAN ...
Courses in Russian are administered within the Department of Linguistics and Languages of the Faculty of Humanities. For information and counselling, please contact the departmental office, Togo Salmon Hall, Room 613.

Note:
Students should note that the Department has classified its Russian language courses under the following categories:
   Introductory Level Language Courses
   RUSSIAN 2A03, 2AA3
   Intermediate Level Language Courses
   RUSSIAN 3A03, 3AA3

Courses
If no prerequisite is listed, the course is open.

RUSSIAN 2A03  INTENSIVE BEGINNER'S RUSSIAN I
Designed for students with no prior knowledge of Russian, the course covers basic Russian vocabulary and grammatical structures, while emphasizing spoken Russian. This course is enhanced by CALL (Computer-Assisted Language Learning) module. The sequel to this course is RUSSIAN 2AA3.
Four hours; one term
Antirequisite: Grade 12 U or M equivalent, RUSSIAN 1203
Not open to students with credit or registration in RUSSIAN 2AA3 or credit in RUSSIAN 12Z3. The Department reserves the right to place students in the course most appropriate to their abilities.

RUSSIAN 2AA3  INTENSIVE BEGINNER'S RUSSIAN II
This course consists of an intensive study of Russian vocabulary and grammar, with further emphasis on spoken Russian and enhancement by CALL (Computer-Assisted Language Learning) module. The sequel to this course is RUSSIAN 3A03.
Four hours; one term
Antirequisite: Grade 12 U or M equivalent, RUSSIAN 12Z3

RUSSIAN 3A03  INTENSIVE BEGINNER'S RUSSIAN II
This course continues the study of Russian grammar with emphasis on extending skills for conversation, reading and writing. Video film and interactive computer software will be used to supplement traditional printed materials. The sequel to this course is RUSSIAN 3AA3.
Four hours; one term
Antirequisite: RUSSIAN 3A93 or 3AA3
Not open to students with credit or registration in RUSSIAN 3AA3 or credit in RUSSIAN 2Z3.
The Department reserves the right to place students in the course most appropriate to their abilities.
RUSSIAN 3A03  INTERMEDIATE RUSSIAN II
Emphasis will be on extending skills for conversation, reading and writing. Video film and interactive computer software will be used to supplement traditional printed materials.
Four hours; one term
Prerequisite: RUSSIAN 2203 or 3A03
Antirequisite: RUSSIAN 2C06, 2Z23
The Department reserves the right to place students in the course most appropriate to their abilities.

MANUFACTURING TECHNOLOGY
(SEE TECHNOLOGY, MANUFACTURING TECHNOLOGY)

MATERIALS SCIENCE AND ENGINEERING

WEB ADDRESS:  http://mse.mcmaster.ca/
John Hodgins Engineering Building, Room 357
Ext. 24295

Faculty as of January 15, 2007

Chair
Kenneth S. Coley

Distinguished University Professors
Gary R. Purdy/M.Sc. (Alberta), Ph.D. (McMaster), D.H.C. (Grenoble),

Professors
Gianluigi Botto/ B.Eng., Ph.D. (Ecole Polytechnique)
Kenneth S. Coley/B.Sc. (Strathclyde), Ph.D., D.I.C. (Imperial College, London)
Dofasco Chair in Ferrous Metallurgy
Adrian Kita/B.Sc. (McMaster), Ph.D. (Cornell), P.Eng.
David S. Wilkinson/B.A.Sc. (Toronto), Ph.D. (Cambridge), F.C.I.M.,
F.A.C.F., P.Eng.
Gu Xu/M.Sc., Ph.D. (Pittsburgh), D.E.S. (Columbia)

Adjunct Professors
Hany Aztiz/B.Sc. (Cairo), M.Eng., Ph.D. (McMaster)
Yves Brechet/D.E.A. (Ecole Polytechnique), Ph.D. (Grenoble)
Michael J. Graham/B.Sc., Ph.D. (Liverpool)
Zygmunt J. Jakube/M.S. (Cracow), Ph.D. (M.I.T.)
David J. Lloyd/B.Sc., Ph.D. (Wales)
Beng S. Ong/B.Sc. (Nanyang), Ph.D. (McGill)
Zoran D. Popovic/Dipl Eng., M.Sc., (Belgrade), Ph.D. (McMaster)
S.V. Subramanian/B.Sc. (Bangar), M.Met., Ph.D. (Sheffield)

Associate Professors
Dmitri V. Malakhov/B.Sc. (Moscow), M.Sc., Ph.D. (Novosibirs, Russia)
Markiewicz/M.Sc., Ph.D. (Krakow)
Nikolas Provatas/M.Sc., Ph.D. (McGill)
Igor Zhilomirsky/M.Sc. (State University, Kalimn), Ph.D. (Karpov Insti-
tute, Moscow)

Assistant Professor
Hatem S. Zurobi/B.Eng., Ph.D. (McMaster)

Associate Members
Karl Dainoki-Veress/Physics) B.Sc., M.Sc., Ph.D. (Guelph)
John E. Greedani/Engineering) B.A. (Bucknell), Ph.D. (Tufts), F.C.I.C
Mohamed Hamed/Engineering) B.A.Sc., Ph.D. (Alexandria)
Adam P. Hitchcock/Chemist) B.Sc., (McMaster), Ph.D. (British Columbia)
F.C.I.C.
Joseph McDermid/Engineering) B.A. Sc. (Queen's), M.Eng.
Ph.D. (McGill)
Kalal Saravanamuttu/Chemist) B.Sc., Ph.D. (McGill)
Samanth Shankari/Engineering) B.Tech (Varanasi), Ph.D. (Worcester)

Courses

MATHS 1M03  STRUCTURE AND PROPERTIES OF MATERIALS
An introduction to the structure of both crystalline and amorphous solids; the physical and chemical basis for properties exhibited by materials; an overview of material properties including mechanical, electrical, magnetic and thermal behaviour.
Three lectures, one tutorial; second term
Prerequisite: Registration in any program in the Faculties of Engineering or Science

MATHS 2B03  THERMODYNAMICS OF MATERIALS
Thermodynamics of gases and critical phenomena. The three laws of thermodynamics applied to materials processing. An introduction to statistical thermodynamics.
Three lectures, one tutorial; first term
Prerequisite: CHEM 1A03 or 1E03
Antirequisite: ENG PHYS 2H04, PHYSICS 2H04

MATHS 2C03  THERMODYNAMIC DYNAMICS
Thermodynamic activity in solid and liquid systems. Gibbs energy of solutions; binary phase diagrams; equilibrium constant; reaction equilibria in gases; Elingham diagrams.
Three lectures, one tutorial; second term
Prerequisite: CHEM 1A03 or 1E03; and MATHS 2B03
Antirequisite: MATHS 2B06

MATHS 2X03  CRYSTALLINE STRUCTURE OF MATERIALS
Crystal geometry, point groups, space groups, X-ray diffraction methods for the determination of crystalline structures and chemical compositions, electron and neutron diffraction methods, microanalysis, crystalline defects, physical properties of crystals, crystal growth, phase analysis, phase diagrams, phase transitions, protein crystallography.
Two lectures, one lab (three hours); first term
Prerequisite: Completion of Science I or Engineering I
Antirequisite: MATHS 2X02

MATHS 3B03  MATERIALS PRODUCTION
Surface science and technology related to the preparation of fine particles of minerals, metals and ceramics for industrial production. Application of electrochemistry for diverse materials processing, such as electrometallurgy, thin film production and anodizing.
Three lectures, second term
Prerequisite: MATHS 2D03

MATHS 3C04  THERMODYNAMICS OF MULTICOMPONENT SYSTEMS
Reaction equilibria in solution; stability diagrams; ternary phase diagrams; aqueous and high temperature electrochemistry; use of computerized thermodynamic databases.
Three lectures, one lab (three hours), one tutorial; second term
Prerequisite: MATHS 2B03
Antirequisite: MATHS 3D03, 3D03

MATHS 3D04  MASS TRANSFER
Phenomenological and mechanistic approaches to diffusion; boundary conditions; diffusion in fluids and solids; point defects in solids.
Three lectures, two tutorials; second term
Prerequisite: One of ENGINEER 2E03, MATHS 1A03 or 1M03; and MATH 2M06 (or 2M03 and 2M03) or both MATH 2A03 and 2C03

MATHS 3F03  HIGH-TEMPERATURE MATERIALS PRODUCTION
Fundamentals of processing, building on a knowledge of heat and mass transfer. High temperature processing of materials, focusing on heat sources; solid state processing of powders and liquid state processing, high temperature production routes for most important metals.
Three lectures, one tutorial (one hour); second term
Prerequisite: MATHS 2D03
Antirequisite: MATHS 4B04
MATLS 3M03 MECHANICAL BEHAVIOUR OF MATERIALS
How materials are made strong, tough, ductile, formable. How to prevent failures. Materials selection using computer databases.
Two lectures, one tutorial and/or laboratory, first term
Prerequisite: ENGINEER 2P04 and one of ENGINEER 2003, MATLS 1A03, 1M03, 2A03, or permission of the department.
Antirequisite: ENGINEER 3P03, MATLS 3P03

MATLS 3Q03 MATERIALS FOR ELECTRONIC APPLICATIONS
Fundamental properties of materials used in electronic applications, operation of devices and fabrication methods of electronic circuits and packaging. Includes description of dielectric, magnetic and optoelectronic properties.
Three lectures; second term
Prerequisite: One of ENGINEER 2E03, 2003 or MATLS 1M03

MATLS 3T04 PHASE TRANSFORMATIONS
Review of thermodynamics, binary phase diagrams and solid state diffusion. Role of interfaces; solidification, diffusion and martensitic transformations; welding; oxidation. Materiallographic examination will be featured in laboratory work.
Three lectures or tutorial, one lab (three hours); first term
Prerequisite: One of ENGINEER 2003, MATLS 1M03, 2X02 or 2X03

MATLS 4A02 SEMINARS AND INDUSTRIAL PRACTICE
Seminars and discussions by technical personnel from industry. Corresponding plant visits made by the class and reported both in written and oral form. Workshops on: Statistical Process Control; ISO 9000; Industrial Health and Safety; Entrepreneurship.
One seminar/tutorial/plant visit (three hours); both terms.
Prerequisite: Registration in the final year of a program administered by the Department of Materials Science and Engineering

MATLS 4AA3 COMPUTATIONAL THERMODYNAMICS
Two lectures, one tutorial during the first half of the term, one lecture, two tutorials during the second half of the term; second term
Prerequisite: One of MATLS 3C03, 3C04 or registration in a program administered by the Department of Materials Science and Engineering
Antirequisite: MATLS 3A03
Offered on an irregular rotation basis.
Offered in 2007-2008.

MATLS 4C03 MODERN IRON AND STEELMAKING
Three lectures; second term
Prerequisite: Registration in final or penultimate year of any Materials Engineering program or permission of instructor
Corequisite: MATLS 3F03 or 4B04
Offered on an irregular rotation basis.

MATLS 4D03 MATERIALS AND THE ENVIRONMENT
The environments experienced by engineering materials in service, and economic methods for ensuring their survival. The basic science of high temperature oxidation and aqueous corrosion leads to an appreciation of methods for corrosion control.
Three lectures; second term
Prerequisite: MATLS 3C04, 3T04
Offered on an irregular rotation basis.

MATLS 4F03 SYNTHESIS AND APPLICATIONS OF NANOMATERIALS
Introduction to synthesis routes for nanomaterials, bottom-up and top-down approaches, specific properties of materials at the nanoscale including carbon nanotubes, nanoparticles and quantum dots.
Three lectures; second term
Prerequisite: Registration in Level IV of a program in Honours Chemistry, Engineering Physics, Materials Engineering or Honours Materials Science
Antirequisite: MATLS 4F04

MATLS 4G03 CHARACTERIZATION OF NANOMATERIALS
Interaction of electrons and photons with matter. Imaging methods with electron microscopy, scanning probe techniques, x-ray photoelectron spectroscopy and X-ray absorption analysis with high spatial resolution.
Three lectures; first term
Prerequisite: Registration in Level III or IV of a program in Chemical Engineering, Honours Chemistry, Engineering Physics, Materials Engineering or Honours Materials Science
Antirequisite: MATLS 4G02
Offered on an irregular rotation basis.

MATLS 4H03 THIN FILM SCIENCE AND ENGINEERING
Deposition and fabrication techniques, surfaces, growth mechanisms, epitaxy, kinetic effects in thin films, defects and properties of thin films.
Materials for packaging.
Three lectures; first term
Prerequisite: Registration in Level IV of Materials Science or Materials Engineering
Offered on an irregular rotation basis.
Offered in 2007-2008.

MATLS 4I03 SUSTAINABLE MANUFACTURING PROCESSES
Sustainable development, materials cycles, methods for measuring environmental impact, life cycle analysis, waste treatment and recycling technologies. Two lectures, one tutorial (one hour); second term
Prerequisite: Registration in final or penultimate year of any Materials Engineering program or permission of instructor
Offered on an irregular rotation basis.
Offered in 2007-2008.

MATLS 4J04 MATTER SELECTION IN DESIGN AND MANUFACTURING
Materials selection charts, materials selection with mechanical constraints, coupled materials and processing/fabrication routes, effect of shape on materials selection, design of hybrid materials, eco-selection.
Three lectures, one tutorial (one hour); first term
Prerequisite: ENGINEER 2P04 or MECHENG 2P04; and CHEM ENG 2A04 or MECHENG 3F03

MATLS 4K04 SENIOR THESIS
Individual experimental research problem with a selected supervisor. A preliminary written and oral report is required at the end of the first term. The thesis is defended orally. A minimum of six unscheduled hours each week, both terms.
Prerequisite: A CA of at least 5.0; and registration in the final year of a Materials Engineering program, or Level IV of Honours Materials Science.

MATLS 4L02 MATERIALS MANUFACTURING LABORATORY
A sequence of experiments based on processing methods used in the metal and ceramic industries. Structure-property relationships are assessed at each step of the processing route.
One lecture, one lab (three hours); first term
Prerequisite: Registration in final year of a Materials Engineering program

MATLS 4N03 COMPUTATIONAL MODELLING IN MATERIALS ENGINEERING
Introduction to numerical modelling of heat and mass transfer processes, microstructure development in alloys, interface properties and simple atomic and molecular modelling.
Three lectures; second term
Prerequisite: MATLS 1M03, 3T04; or registration in a program administered by the Department of Materials Science and Engineering
Antirequisite: MATLS 3N03, 4E04
Offered on an irregular rotation basis.

MATLS 4P03 PROPERTIES OF POLYMERIC MATERIALS
Structure of amorphous and crystalline polymeric materials; mechanical, electrical and optical properties, and their modification through processing.
Three lectures; first term
Prerequisite: CHEM 2A02, and both MATH 2A03 and 2C02 or MATH 2M06 (or 2M03 and 2M33)
Offered on an irregular rotation basis.
Offered in 2007-2008.
Open to Level III and IV students registered in a program in the Faculty of Science or Engineering with permission of the department.
MATH 4R03 CERAMIC SCIENCE
The unique properties of structural and functional ceramics are explored, including ferroelectric, piezoelectric and magnetic ceramics, clays, porcelains and refractories. The importance of processing for achieving properties is emphasized.
Three lectures; second term
Prerequisite: Registration in a program in Materials Engineering
Offered on an irregular rotation basis.
Offered in 2007-2008.
MATLS 4T03 PROPERTIES AND PROCESSING OF COMPOSITES
Intrinsic properties of matrix materials and fibres; mechanics and thermodynamics of interfaces; mechanical properties and fabrication of engineering composites.
Three lectures; second term
Prerequisite: ENGINEER 3P03 or MATLS 3M03
Offered on an irregular rotation basis.
Offered in 2007-2008.
MATLS 4Z04 INDUSTRIAL PROJECTS
Projects, in cooperation with industry, involving materials design in manufacturing, complemented by lectures in group problem solving and design methodology.
Two labs (three hours); both terms
Prerequisite: Registration in Level IV or V of any program in Materials Engineering

MATHEMATICS AND STATISTICS

WEB ADDRESS: http://www.math.mcmaster.ca
Hamilton Hall, Room 218 Ext. 27034

Faculty as of January 15, 2007

Chair
Bradd Hart

Associate Chairs
Hans Boden/Graduate Studies
Deirdre Haskell/Undergraduate Studies

Professors
Stanley Alama/B.Sc. (Columbia), M.Sc., Ph.D. (Courant, New York)
N. Balakrishnan/B.Sc., M.Sc. (Madras), Ph.D. (Illinois-New Hampshire), Breslau/Graduate Advisor, Mathematics
Lia Brunsand/B.Sc. (Montreal), M.Sc., Ph.D. (Courant, NYU)
Walter Craig/A.B. (California-Berkeley), M.S., Ph.D. (Courant, New York), Senior Canada Research Chair
Shui Feng/B.Sc., M.Sc. (Beijing Normal), Ph.D. (Carleton)
Jean-Pierre Gabardo/B.Sc. (Université de l’Est a Mons), Ph.D. (Maryland)
Ian Hambleton/B.Sc., M.Sc. (Toronto), Ph.D. (Yale), Britton Professor of Mathematics
Bradd Hart/B.Math. (Waterloo), Ph.D. (McGill)
Fred M. Hoppe/B.Sc. (Toronto), M.Sc. (Weizmann Institute of Science), M.A., Ph.D. (Princeton)
Thomas R. Hurd/B.Sc. (Queen’s), D.Phil. (Oxford)
Manuel Kolster/Dipl. (Hamburg), Dr. rer. nat. (Saarbrucken), Habil. ( Munster)
Peter D.M. Macdonald/B.Sc., M.Sc. (Toronto), D.Phil. (Oxford)
Pat Strat
Maung M. Meulen/B.Sc. (Rangoon), Dip. Math. Dr. rer. nat. (Bonn)
Gregory H. Moore/A.B. (California-Berkeley), M.A., Ph.D. (Toronto)
Andrew J. Nicolas/B.Sc. (McGill), M.A., Ph.D. (Princeton)
Eric T. Sawyer/B.Sc., Ph.D. (McGill)/McKay Professor of Mathematics
Matthew A. Valerio/B.Math. (Waterloo), Ph.D. (California-Berkeley)
Roman Viveros-Aguilera/B.A. (Veracruzan, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)/Graduate Advisor, Statistics
Gail S.K. Wolkowicz/B.Sc., M.Sc. (McGill), Ph.D. (Alberta)

Adjunct Professor
Abdel H. El-Shaarawi/B.Sc., M.Sc. ( Cairo), Ph.D. (Waterloo)/part-time

Associate Professors
Aaron Childs/B.Sc., M.Sc., Ph.D. (McMaster)
David Earn/B.Sc. (Toronto), Ph.D. (Cambridge)

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Lia Brunsand/B.Sc. (Montreal), M.Sc., Ph.D. (Courant, NYU)
Walter Craig/A.B. (California-Berkeley), M.S., Ph.D. (Courant, New York), Senior Canada Research Chair
Shui Feng/B.Sc., M.Sc. (Beijing Normal), Ph.D. (Carleton)
Jean-Pierre Gabardo/B.Sc. (Université de l’Est a Mons), Ph.D. (Maryland)
Ian Hambleton/B.Sc., M.Sc. (Toronto), Ph.D. (Yale), Britton Professor of Mathematics
Bradd Hart/B.Math. (Waterloo), Ph.D. (McGill)
Fred M. Hoppe/B.Sc. (Toronto), M.Sc. (Weizmann Institute of Science), M.A., Ph.D. (Princeton)
Thomas R. Hurd/B.Sc. (Queen’s), D.Phil. (Oxford)
Manuel Kolster/Dipl. (Hamburg), Dr. rer. nat. (Saarbrucken), Habil. ( Munster)
Peter D.M. Macdonald/B.Sc., M.Sc. (Toronto), D.Phil. (Oxford)
Pat Strat
Maung M. Meulen/B.Sc. (Rangoon), Dip. Math. Dr. rer. nat. (Bonn)
Gregory H. Moore/A.B. (California-Berkeley), M.A., Ph.D. (Toronto)
Andrew J. Nicolas/B.Sc. (McGill), M.A., Ph.D. (Princeton)
Eric T. Sawyer/B.Sc., Ph.D. (McGill)/McKay Professor of Mathematics
Matthew A. Valerio/B.Math. (Waterloo), Ph.D. (California-Berkeley)
Roman Viveros-Aguilera/B.A. (Veracruzan, Mexico), M.A. (National Polytechnic Inst., Mexico), Ph.D. (Waterloo)/Graduate Advisor, Statistics
Gail S.K. Wolkowicz/B.Sc., M.Sc. (McGill), Ph.D. (Alberta)

Adjunct Professor
Abdel H. El-Shaarawi/B.Sc., M.Sc. ( Cairo), Ph.D. (Waterloo)/part-time

Associate Professors
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David Earn/B.Sc. (Toronto), Ph.D. (Cambridge)
Deirdre Haskell/B.A. (Oxford), M.Sc., Ph.D. (Stanford)
Nicholas Kevlahan/B.Sc. (British Columbia), Ph.D. (Cambridge)
Zdzislaw V. Kowalik/M.Sc. (Charlottesville, Virginia, Prince), Ph.D. (Toronto)
Miroslav Loutos/B.Sc. (Zagreb), M.Sc., Ph.D. (Ohio State), 3M Teaching Fellow
Ernest R. Mead/B.A., M.A., Ph.D. (Western Ontario), A.S.A.
Dmitry E. Pelinovsky/M.Sc., Ph.D. (Nizhny Novgorod State, Russia), Ph.D. (Monash)
Patrick Spiesseger/M.Sc. (Swiss Federal Institute of Technology), Ph.D. (Illinois-Urbana/Canada Research Chair

Adjunct Associate Professors
Agnes Tourin/M.Sc. (Paris), Ph.D. (Paris)
Kevin N. Vander Meulen/B.Sc. (Calvin College), Ph.D. (Queen’s)

Assistant Professors
Ilham Akhunzoda/B.A. (Azerbaijan State University), M.A., Ph.D. (St. Petersburg-Leningrad)
Angelo Canty/B.Sc. (University College, Cork), M.Sc., Ph.D. (Toronto)
Matheus Grasselli/B.Sc. (Sao Paolo), Ph.D. (King’s College, London)
Megumi Harada/A.B. (Harvard), Ph.D. (California-Berkeley)
David Lovink/B.Math. (Waterloo), M.Sc., Ph.D. (Northwestern)
Barbara Oates/B.Sc. (Warsaw University of Technology), Ph.D. (Warsaw University of Technology and Université de Paris)
Ronny Shastri/B.A. (California-Berkeley), Ph.D. (Chicago)/Canada Research Chair

Ron Zhu/B.Sc., M.Sc. (University of Science and Technology of China), Ph.D. (British Columbia)

Associate Members
Antoine Dezéa/Computing and Software)/M.Sc. (Ecole Nationale des Ponts et Chaussées), Ph.D. (Tokyo Institute of Technology)
Timothy Field/Electrical and Computer Engineering)/B.A. (Cambridge), B. Phil. (Oxford)
Nedal I. Neda/Computing and Software)/B.Sc. (Sophia, Bulgaria), M.Sc., Ph.D. (Toronto)
Jiming Feng/Computing and Software)/B.Sc. (Xiang Tan), M.Sc. (Chinese Academy of Sciences), Ph.D. (Delft University of Technology)
Tamas Terlaky/Computing and Software)/M.Sc., Ph.D. (Lorand Eötvös)
Stephen Walter/Health Sciences)/B.Sc. (Imperial College, London), Ph.D. (Edinburgh), A. R. C. S.

Department Note:
Course codes ending with * indicate that course is not necessarily offered every session; consult the Chair of the Department or the Associate Dean of Science (Studies).

MATHEMATICS ...

Courses
If no prerequisite is listed, the course is open.

MATH 1A03 CALCULUS FOR SCIENCE I
For students in science: geared towards applications, with attention to underlying concepts. Functions: limits, continuity, derivatives, optimization, curve sketching. Antiderivative, definite integral, techniques of integration. Three lectures, one tutorial; one term
Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U or MATH 1K03
Prerequisite (Beginning 2008-2009): One of Grade 12 Calculus and Vectors U, Grade 12 Advanced Functions and Introductory Calculus U, MATH 1F03 or 1K03
Antirequisite: ARTS & SCI 1D06, MATH 1N03, 1X03
Normally not open to students who have completed MATH 1N03. Not open to students registered in an Engineering program.

MATH 1A03 CALCULUS FOR SCIENCE II
For students in science: additional techniques of integration, applications of definite integrals, differential equations, polar coordinates, parametrized curves. Sequences, infinite series, power series. Partial derivatives. Three lectures, one tutorial; one term
Prerequisite: MATH 1A03 or 1X03
Prerequisite (Beginning 2008-2009): MATH 1A03 or 1X03; or a grade of at least A- in MATH 1L33
Antirequisite: ARTS & SCI 1D06, MATH 1N03, 1X03
MATH 1B03  LINEAR ALGEBRA I
Vector spaces given by solutions to linear systems. Linear independence, dimension, determinants. Eigenvalues, eigenvectors and diagonalization. Complex numbers.
Three lectures, one tutorial; one term
Prerequisite: One of Grade 12 Geometry and Discrete U, MATH 1D03, STATS 1L03
Prerequisite (Beginning 2008-2009): One of Grade 12 Calculus and Vectors U, Grade 12 Geometric and Discrete U, MATH 1D03, 1F03 or STATS 1L03
Antirequisite: MATH 1H03, 1H05, 1H13
Not open to students registered in an Engineering program.

MATH 1C03  INTRODUCTION TO MATHEMATICAL REASONING
Inquiry into the ideas and methods of advanced mathematics. Material will include topics selected from algebra, calculus, discrete math, geometry and number theory.
Three hours; one term
Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U and Grade 12 Geometry and Discrete U; or registration in MATH 1D03 and registration in Science I or Mathematics and Statistics I
Prerequisite (Beginning 2008-2009): One of Grade 12 Calculus and Vectors U, Grade 12 Geometric and Discrete U, MATH 1D03 or 1F03; and credit or registration in MATH 1B03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

MATH 1D03  ALGEBRA AND GEOMETRY
Three lectures, one tutorial; one term
Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U
Not open to students who have completed Grade 12 Geometry and Discrete Math U.

MATH 1E03  ADVANCED FUNCTIONS
Polynomial, rational, trigonometric, exponential and logarithmic functions; algebraically, numerically and geometrically. Qualitative understanding of rates of change.
Three lectures, one tutorial; one term
Prerequisite: OSS Grade 11 Mathematics
Not open to students with credit in Grade 12 Advanced Functions U or Grade 12 Advanced Functions and Introductory Calculus U.

MATH 1F03  INTRODUCTION TO CALCULUS AND ANALYTIC GEOMETRY
A first course in the techniques of the differential calculus including exponential, logarithmic and trigonometric functions. An introduction to vector geometry.
Three lectures, one tutorial; one term
Prerequisite: One of Grade 12 Advanced Functions U, Grade 12 Advanced Functions and Introductory Calculus U or MATH 1E03
Not open to students with credit in Grade 12 Calculus and Vectors U.

MATH 1H03  LINEAR ALGEBRA FOR ENGINEERING
Linear systems of equations, matrices, determinants, vectors and vector spaces, complex numbers, eigenvalues and eigenvectors.
Three lectures, one tutorial; first term
Prerequisite: Registration in a program in Engineering
Antirequisite: MATH 1B03, 1H05

MATH 1K03  INTRODUCTORY CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES
An introduction to differential calculus and its applications.
Three lectures, one tutorial; one term
Prerequisite: OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics (Advanced)
 Normally not open to students who have completed Grade 12 Advanced Functions and Introductory Calculus U.

MATH 1L03  MATHEMATICS FOR THE LIFE SCIENCES
Topics from differential and integral calculus, differential equations, discrete math, chosen for their relevance to the life sciences.
Three lectures, one tutorial; one term
Prerequisite: One of Grade 12 Calculus and Vectors U, Grade 12 Advanced Functions and Introductory Calculus U or MATH 1F03.
Not open to students with a grade of A- or above in MATH 1A03.
Students with a grade of at least A- in MATH 1L03 may use it as a substitute for MATH 1A03 for prerequisites and for consideration to a Level II program for which MATH 1A03 is normally required.

MATH 1M03  CALCULUS FOR BUSINESS, HUMANITIES AND THE SOCIAL SCIENCES
Integral calculus of polynomial, rational, exponential and logarithmic functions. Optimization problems. Applications in the Social Sciences and Business.
Three lectures, one tutorial; one term
Prerequisite: MATH 1K03 or Grade 12 Advanced Functions and Introductory Calculus U.
Prerequisite (Beginning 2008-2009): One of Grade 12 Calculus and Vectors U, Grade 12 Advanced Functions and Introductory Calculus U, MATH 1F03 or 1K03
Students considering upper year mathematics courses should take MATH 1A03.
Not open to students with credit or registration in ARTS&SCI 1D06, MATH 1A03, 1N03, 1X03.

MATH 1N03  CALCULUS FOR ENGINEERING I
Differential calculus, the definite integral, techniques of integration, applications.
Three lectures, one tutorial; one term
Prerequisite: Registration in a program in Engineering
Antirequisite: MATH 1A03, 1X03.

MATH 1NN3  CALCULUS FOR ENGINEERING II
Applications of integration, differential equations, sequences and series, differential calculus of several variables, applications.
Three lectures, one tutorial; one term
Prerequisite: MATH 1N03
Antirequisite: MATH 1A03, 1X03

MATH 1X03  CALCULUS FOR MATH AND STATISTICS I
For students with interest in mathematics/statistics; emphasis on geometric intuition, but also theoretical foundations. Functions; limits, continuity, derivatives, optimization, curve sketching. Antiderivatives, definite integral, techniques of integration.
Three lectures, one tutorial; one term
Prerequisite: Registration in Math and Stats I
Antirequisite: ARTS&SCI 1D06, MATH 1A03, 1N03

MATH 1XX3  CALCULUS FOR MATH AND STATISTICS II
Three lectures, one tutorial; one term
Prerequisite: MATH 1X03 and registration in Math and Stats I
Antirequisite: ARTS&SCI 1D06, MATH 1A03, 1N03

MATH 2A03  CALCULUS III
Functions of several variables, curve rule, Taylor's formula, extremal problems, Lagrange multipliers; multiple integrals, change of variables formula, line and surface integrals, Green's, Gauss' and Stokes' theorems.
Three lectures, one tutorial; one term
Prerequisite: One of MATH 1A03, 1N03, 1X03, ARTS&SCI 1D06; and credit or registration in one of MATH 1B03, 1D03, 1H03, 1H05 or 1H13
Antirequisite: MATH 2M06, 2M03, 2Q04
Not open to students with credit in MATH 2X03.

MATH 2C03  DIFFERENTIAL EQUATIONS
Three lectures; one term
Prerequisite: One of MATH 1A03, 1N03, 1X03, ARTS&SCI 1D06; and one of MATH 1B03, 1D03, 1H03, 1H05, 1H13
Antirequisite: MATH 2C03, 2M03, 2M06, 2Q04

MATH 2E03  INTRODUCTION TO MODELLING
General features of modelling. Selected examples from biology, chemistry, economics and physics are treated by a variety of elementary methods. Computer packages are used when appropriate.
Three lectures, one lab (one hour); one term
Prerequisite: One of MATH 1A03, 1N03, 1X03, ARTS&SCI 1D06; and credit or registration in one of MATH 1B03, 1D03, 1H03, 1H05, 1H13
Antirequisite: MATH 2E03

MATH 2K03  FINANCIAL MATHEMATICS
Nominal and effective rates of interest and discount, forces of interest and discount, compound interest, annuities certain; amortization, sinking funds, bonds, security evaluation, determination of yields.
Three lectures; one term
Prerequisite: One of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06

MATH 2L03  VECTOR ALGEBRA AND GEOMETRY

MATH 2M03  LINEAR ALGEBRA FOR ENGINEERING
Linear systems of equations, matrices, determinants, vectors and vector spaces, complex numbers, eigenvalues and eigenvectors.

MATH 2N03  ADVANCED CALCULUS

MATH 2P03  DIFFERENTIAL EQUATIONS

MATH 2Q03  INTRODUCTION TO MODELLING
General features of modelling. Selected examples from biology, chemistry, economics and physics are treated by a variety of elementary methods. Computer packages are used when appropriate.

MATH 2R03  FINANCIAL MATHEMATICS
Nominal and effective rates of interest and discount, forces of interest and discount, compound interest, annuities certain; amortization, sinking funds, bonds, security evaluation, determination of yields.

MATH 2S03  VECTOR ALGEBRA AND GEOMETRY
MATH 2L03  MATHEMATICAL METHODS FOR BUSINESS AND SOCIAL SCIENCES
Selected topics from: linear programming, Markov chains, game theory, differential equations, and the calculus of several variables.
Three lectures; one term.
Prerequisite: One of MATH 1A03, 1M03, 1N03, 1X03, ARTS&SCI 1D06; and one of MATH 1B03, 1D03, 1H03, STATS 1L03, Grade 12 Mathematics of Data Management U
Not open to students registered in Science or Engineering programs.

MATH 2M03  ENGINEERING MATHEMATICS II
Ordinary differential equations, Laplace transforms, Fourier series, with engineering applications.
Three lectures; one term.
Prerequisite: MATH 1NN3; and one of MATH 1H03, 1H05, 1HH3
Antirequisite: MATH 2C03, 2P04, 2M06
Not open to students who have completed MATH 2X03.

MATH 2P04  DIFFERENTIAL EQUATIONS FOR ENGINEERING
Three lectures and two tutorials; one term.
Prerequisite: MATH 1NN3 and one of MATH 1H03, 1H05, 1HH3
Antirequisite: MATH 2C03, 2M03, 2M06

MATH 2Q04  ADVANCED CALCULUS FOR ENGINEERING
Vector calculus, curves, partial differentiation, multiple integrals, Green's theorem, line and surface integrals, integral theorems, scalar and vector potentials, orthogonal curvilinear coordinates, introduction to partial differential equations.
Three lectures and two tutorials; one term.
Prerequisite: MATH 1NN3 and one of MATH 1H03, 1H05, 1HH3
Antirequisite: MATH 2A03, 2Q04, 2M06

MATH 2R03  LINEAR ALGEBRA II
Three lectures; one term.
Prerequisite: One of MATH 1AA3, 1NN3, 1X03, ARTS&SCI 1D06; and one of MATH 1B03, 1H03, 1H05, 1HH3

MATH 2S03  LINEAR ALGEBRA III
Canonical forms, determinants, bilinear forms, groups of linear transformations, other topics selected by the instructor.
Three lectures; one term.
Prerequisite: MATH 2R03

MATH 2T03  NUMERICAL LINEAR ALGEBRA
Introduction to Matlab; matrix and vector norms; sensitivity, conditioning, convergence and complexity; direct and iterative methods for linear systems; eigenvalues and eigenvectors; least squares.
Three lectures; one term.
Prerequisite: MATH 2R03

MATH 2U03  TEACHING MATHEMATICS
This course is designed to give a maximum of 20 students practical experience with teaching methods in mathematics. The course also provides an introduction to mathematics writing and development of communication skills relevant to mathematics.
Two lectures and one tutorial.
Prerequisite: A grade of A- in both MATH 1A03 and 1AA3, or in both MATH 1X03 and 1XX3, or in ARTS&SCI 1D06; and permission of the instructor. Applications must be submitted to the instructor by May 1 of the academic year prior to registration, with selection for placements announced by September 9.
See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar. Enrolment is limited.

MATH 2V03  ADVANCED CALCULUS I
Introduction to the theory of functions of several variables: limits, continuity, differentiability. Taylor's Theorem and optimization, with applications.
Three lectures; one term.
Prerequisite: One of MATH 1AA3, 1XX3 or ARTS&SCI 1D06; and MATH 1B03 or 1D03
Normally not open to students with credit in MATH 2A03, 2M06, 2Q04.

MATH 2X03  ADVANCED CALCULUS II
Multiple integration, path and surface integrals and applications. Classical integration theorems of vector calculus.
Three lectures; one term.
Prerequisite: MATH 2X03

MATH 3A03  REAL ANALYSIS I
Sequences of real numbers; supremum, continuity. Riemann integral, differentiation. Sequences and series of functions; uniform continuity and uniform convergence.
Three lectures; one term.
Prerequisite: MATH 2C03, 2R03, 2XX3

MATH 3B03  GEOMETRY
Selected topics from: affine and projective geometry, Euclidean, spherical and hyperbolic geometry, differential geometry of curves and surfaces.
Three lectures; one term.
Prerequisite: MATH 2A03 or 2X03, and MATH 2R03

MATH 3C03  MATHEMATICAL PHYSICS I
Linear algebra and eigenvalue problems; partial differential equations, orthogonal functions, Fourier series, Legendre functions, spherical harmonics.
Three lectures; one term.
Prerequisite: MATH 2A03 or 2X03; and MATH 2R03

MATH 3D03  MATHEMATICAL PHYSICS II
Functions of a complex variable, probability and statistics, boundary value problems. Bessel functions.
Three lectures; one term.
Prerequisite: MATH 3C03

MATH 3E03  ALGEBRA I
An introduction to group theory, including Sylow theorems and structure of finitely generated Abelian groups; applications of group theory.
Three lectures; one term.
Prerequisite: MATH 2S03

MATH 3EE3  ALGEBRA II
Topics in ring and module theory, in particular principal ideal domains, unique factorization domains, Euclidean rings, field theory and Galois theory.
Three lectures; one term.
Prerequisite: MATH 2A03 or 2X03

MATH 3F03  ADVANCED DIFFERENTIAL EQUATIONS
Three lectures; one term.
Prerequisite: MATH 2C03, 2X03 and credit or registration in MATH 2R03

MATH 3FF3  PARTIAL DIFFERENTIAL EQUATIONS I
First order equations, well-posedness, characteristics, wave equation, heat equation, Laplace equation, boundary conditions, Fourier series, applications.
Three lectures; one term.
Prerequisite: MATH 2C03, 2R03, 2X03

MATH 3GG3  PROBLEM SOLVING
A course designed to illustrate the principles of mathematical problem solving. Maximum enrolment is 20 students.
Three lectures; one term.
Prerequisite: MATH 2A03 or 2X03, and MATH 2R03
MATH 3GP3*  GEOMETRIC IDEAS IN PHYSICS
Minkowski space, Lorentz metric, Maxwell's equations, general relativity, geodesics, curvature, black hole geometries and other selected topics. Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and MATH 2R03 or credit or registration in MATH 3C03

MATH 3H03*  NUMBER THEORY
Selected topics from: congruence and residues, continued fractions, approximation of irrationals, arithmetic in selected quadratic number fields. Diophantine equations, partitions, geometry of numbers, quadratic reciprocity. Three lectures; one term
Prerequisite: Credit in at least 12 units of Mathematics or Statistics Level II or above

MATH 3I03  PARTIAL DIFFERENTIAL EQUATIONS FOR ENGINEERING
Topics in partial differential equations of interest to mechanical, material and ceramic engineering, including the wave equation, the heat diffusion equation and Laplace equation, in various coordinate systems. Three lectures; first term
Prerequisite: MATH 2M06 (or 2M03 and 2W03); or MATH 2P04 and 2Q04; or registration in Level III or IV of a program in the Department of Materials Science and Engineering

MATH 3K03  ENGINEERING MATHEMATICS III
Complex variable theory with applications to electrical and computer engineering. Three lectures; one term
Prerequisite: MATH 2P04
Antirequisite: MATH 3D03

MATH 3N03  MATHEMATICAL BIOLOGY
Population dynamics: models of discrete and continuous growth; competition and predation; epidemic models. Partial differential equations: diffusion and pattern formation in biological settings. Biological oscillators. Three lectures; one term
Prerequisite: MATH 2E03, 3F03

MATH 3Q03  NUMERICAL INTERPOLATION AND APPROXIMATION THEORY
Polynomial and spline interpolations; approximation in Hilbert space; Hermite interpolation; orthogonal polynomials; wavelets; numerical differentiation and integration; solution of nonlinear equations; minimization of nonlinear functions. Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and MATH 2T03

MATH 3R03  COMBINATORICS
Inversion formulae, systems of distinct representatives, block designs and other configurations; other topics. Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and MATH 2R03
Antirequisite: MATH 4C03

MATH 3S03*  GRAPH THEORY
Graphs, trees, bipartite graphs, connectivity, graph colouring, matrix representations, applications. Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and MATH 2R03
Antirequisite: MATH 4F03

MATH 3X03  COMPLEX ANALYSIS I
Analytic functions, Cauchy's theorem, Cauchy's integral formula, residues, zeroes of analytic functions; Laurent series, the maximum modulus principle. Three lectures; one term
Prerequisite: MATH 2C03, 2R03, 2X03

MATH 3Z03  INQUIRY: HISTORY OF MATHEMATICS
An introduction to the history of mathematics, including interaction with other phases of culture, with special emphasis on the past three centuries. Three lectures; one term
Prerequisite: At least two Level II Mathematics or Statistics courses other than MATH 2K03, 2L03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

MATH 4A03  REAL ANALYSIS II
Metric spaces, compactness. Spaces of continuous functions, functions of several variables, inverse and implicit function theorems. Lebesgue integration. Three lectures; one term
Prerequisite: MATH 3A03
Antirequisite: MATH 3AA3

MATH 4AT3*  TOPICS IN ANALYSIS
Precise topics will vary; consult the department for current information. Possible topics include: functional analysis, measure theory, harmonic analysis, calculus of variations. Three lectures; one term
Prerequisite: Permission of the instructor. MATH 4AT3 may be repeated, if on a different topic.

MATH 4B03  CALCULUS ON MANIFOLDS
Review of multivariable calculus, basic properties of manifolds, differential forms, Stokes' theorem, de Rham cohomology and applications. Three lectures; one term
Prerequisite: MATH 3A03 or 3C03

MATH 4BT3*  TOPICS IN GEOMETRY
Precise topics will vary; consult the department for current information. Possible topics include: differential geometry, Riemannian manifolds, curvature, geodesics, topological and analytic properties of Riemannian manifolds. Three lectures; one term
Prerequisite: Permission of the instructor. MATH 4BT3 may be repeated, if on a different topic.

MATH 4E03  GALOIS THEORY
Field extensions, splitting fields, normality and separability, Galois extensions, finite fields, solvability by radicals, cyclic extensions, cyclotomic extensions, algebraic closure, classical constructions, computations of Galois groups. Three lectures; one term
Prerequisite: MATH 3EE3

MATH 4ET3*  TOPICS IN ALGEBRA
Precise topics will vary; consult the department for current information. Possible topics include: algebraic geometry, algebraic number theory. Three lectures; one term
Prerequisite: Permission of the instructor. MATH 4ET3 may be repeated, if on a different topic.

MATH 4G03  DYNAMICAL SYSTEMS
Topics to be selected from ordinary differential equations theory, bifurcation and stability theory. Three lectures; one term
Prerequisite: MATH 3F03. MATH 3A03 is recommended.

MATH 4K03*  MATHEMATICS OF FINANCE
Options and forwards, efficient market hypothesis, no arbitrage condition, binomial asset pricing model, portfolio strategies, stochastic processes, conditional expectation, martingales, optimal portfolio selection, exotic options, stochastic interest rate models. Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and STATS 2D03

MATH 4L03*  INTRODUCTION TO MATHEMATICAL LOGIC
First order logic, deduction systems, completeness and compactness theorems, model theory. Three lectures; one term
Prerequisite: MATH 3E03
MATH 4LT3*  TOPICS IN LOGIC
Precise topics will vary; consult the department for current information. Possible topics include: axiomatic set theory, computability theory, model theory or proof theory.
Three lectures; one term
Prerequisite: Permission of the instructor
MATH 4LT3 may be repeated, if on a different topic.

MATH 4Q03  NUMERICAL METHODS FOR DIFFERENTIAL EQUATIONS
Three lectures; second term
Prerequisite: Credit or registration in MATH 3C03 or 3FF3; or permission of the instructor
MATH 4TT3*  TOPICS IN TOPOLOGY
Precise topics will vary; consult the department for current information. Possible topics include: fundamental group and covering spaces, cell complexes and homology theory, theory of knots, links, and braids.
Three lectures; one term
Prerequisite: Permission of the instructor
Antirequisite: MATH 4TO3
MATH 4TT3 may be repeated, if on a different topic.

MATH 4V03  APPLIED ANALYSIS
Theory of distributions, Fourier transforms, fundamental solutions and Green's functions for partial differential operators, uncertainty principle, Poisson summation formula, applications.
Three lectures; one term
Prerequisite: MATH 3A03

MATH 4W03  TOPICS IN MATHEMATICS
Directed reading in areas of mathematics of interest to the student and the instructor.
Prerequisite: Permission of the Chair of the Department
MATH 4W03 may be repeated, if on a different topic.

MATH 4X03  COMPLEX ANALYSIS II
Conformal maps, analytic continuation, harmonic functions, the Riemann mapping theorem, Riemann surfaces.
Three lectures; one term
Prerequisite: MATH 3X03

STATS 1L03  PROBABILITY AND LINEAR ALGEBRA
The algebra of probability, conditional probability and independence, discrete and continuous random variables, mean and variance, matrices, determinants, Cramer's rule, solution of linear equations.
Three lectures, one tutorial; one term
Prerequisite: OSS Grade 11 Mathematics or OS~S Grade 12 Mathematics
Not open to students with credit in Grade 12 Mathematics of Data Management U or STATS 1C3, 2D03, 2MA3, 2MB3.
Not open to students registered in the Faculty of Science or Engineering.

STATS 2B03  STATISTICAL METHODS FOR SCIENCE
Applied statistics, with emphasis on inferential methods relevant to the environmental and life sciences. Use of a computer statistics package.
Three lectures; one term
Prerequisite: One of Grade 12 Data Management U, STATS 1A03 or registration in Level II or above of a program in the Faculty of Science. Not open to students with credit or registration in COMMERCE 2QA3, ECON 2B03, HTH SCI 1F03, 2A03, SOC SCI 2J03, STATS 1CC3, 2D03, 2MA3, 2MB3.

STATS 2D03  PROBABILITY THEORY
Combinatorics, independence, conditioning, Poisson-process; discrete and continuous distributions with statistical applications; expectation, transformations, order statistics. Distribution of sample mean and variance, moment-generating functions, central limit theorem.
Three lectures; one term
Prerequisite: One of MATH 1A03, 1M03 or 1X03; and credit or registration in MATH 1B03 or 1D03. One of MATH 1AA3, 1NN3, 1XX3 is strongly recommended.
Prerequisite (Beginning 2008-2009): One of MATH 1AA3, 1NN3, 1XX3
Antirequisite: PSYCH 2RA3
Not open to students with credit or registration in STATS 2A03, 2MA3.

STATS 2MA3  PROBABILITY AND STATISTICAL METHODS FOR SCIENCE
Combinatorics; discrete and continuous probability distributions; expectations; central limit theorem; point and interval estimation; hypothesis testing; regression and correlation; analysis of variance.
Three lectures; one term
Prerequisite: STATS 1CC3; and one of MATH 1A03, 1M03 or 1X03
Antirequisite: ECON 2B03
Not open to students with credit or registration in COMMERCE 2QA3, ECON 2B03, SOC SCI 2I03, STATS 2A03, 2D03, 2MA3.

STATS 2MB3  STATISTICAL METHODS
Estimation; sampling distributions; confidence intervals, hypothesis testing; power; robustness; analysis of variance for one and two factor designs; linear regression; graphical methods; statistical computing using software package R.
Three lectures; one term
Prerequisite: STATS 2B03
Antirequisite: ECON 2B03, PSYCH 2R03, 2RB3, 2RR3, STATS 2R06
Not open to students with credit or registration in COMMERCE 2QA3, ECON 2B03, SOC SCI 2I03, STATS 2A03, 2MA3, 2MA6.

STATS 3A03  REGRESSION AND DESIGN OF EXPERIMENTS
Introduction to SAS, linear models, regression and inference, diagnostics, analysis of variance, randomized block designs, Latin squares, and factorial experiments using SAS.
Three lectures; one term
Prerequisite: STATS 3D03
Antirequisite: STATS 4B03

STATS 3D03  MATHEMATICAL STATISTICS I
The multivariate normal distribution, sampling distributions, limiting distributions, introduction to statistical inference.
Three lectures; one term
Prerequisite: STATS 2D03 and one of MATH 2A03, 2L03, 2Q04, 2X03
Antirequisite: STATS 3D06

STATS 3D03  MATHEMATICAL STATISTICS II
Estimation tests of hypotheses, sufficient statistics, inference about normal models, and selected topics from robust inference, Bayesian inference, nonparametric inference and resampling methods.
Three lectures; one term
Prerequisite: STATS 3D03
Antirequisite: STATS 3D06

Department Note:
Students wishing to register in any Mathematics and Statistics specialization must take MATH 1A03 and 1B03.

Courses  If no prerequisite is listed, the course is open.

STATS 1A03  STATISTICAL REASONING
The basic ideas of graphical displays, sampling methodology and probability are developed through diverse examples from a wide range of disciplines.
Three lectures, one tutorial; one term
Prerequisite: OSS Grade 11 Mathematics or OS~S Grade 12 Mathematics
Antirequisite: ECON 2B03, HTH SCI 2A03
Not open to students with credit or registration in PSYCH 2RR3, SOC SCI 2J03, STATS 1CC3, 2D03, 2MA3, 2MB3 or to students registered in the Faculties of Science, Business or in a Kinesiology or the Bachelor of Health Sciences (Honours) program.

STATS 1CC3  INTRODUCTORY COMPUTER-AIDED STATISTICS
Applied statistics including simple probability calculations based on binomial, Poisson and normal distributions, with emphasis on inferential methods and linear regression using computer statistics packages.
Two lectures, one lab (two hours); one term
Prerequisite: MATH 1M03, or credit or registration in MATH 1A03 or 1X03
Antirequisite: COMMERCE 2QA3, ECON 2B03, HTH SCI 1F03, 2A03, PSYCH 2G03, 2R03
Not open to students with credit in any Level II or above Statistics course or to students registered in the Faculty of Business.
See Department Note above.
STATS 3G03* ACTUARIAL MATHEMATICS I
Survival distributions, life tables, life insurance, life annuities, net premiums and reserves.
Three lectures; one term
Prerequisite: STATS 2D03 and credit in MATH 2K03

STATS 3H03* ACTUARIAL MATHEMATICS II
Multiple life functions, multiple decrement models, valuation theory for pension plans.
Three lectures; one term
Prerequisite: STATS 3G03

STATS 3J04 PROBABILITY AND STATISTICS FOR ENGINEERING
Introduction to probability, data analysis, statistical inference, regression, correlation and analysis of variance, applications to civil and environmental engineering.
Three lectures; one tutorial; first term
Prerequisite: Registration in a program in Engineering above Level I or above of any program in Engineering. Antirequisite: MATH 3J04, STATS 3N03, 3Y03

STATS 3N03 STATISTICAL METHODS FOR ENGINEERING
Introduction to probability, data analysis, statistical inference, regression, correlation and analysis of variance.
Three lectures; one term
Prerequisite: Registration in a program in Engineering above Level I or above of any program in Engineering.

STATS 3Q03 SURVEY SAMPLING
Survey design; simple random sampling; stratified sampling; proportional allocation; ratio estimation; cluster sampling; systematic sampling and sample size determination. A project associated with current research is required.
Three lectures; one term
Prerequisite: STATS 2D03, 2M03

STATS 3U03 STOCHASTIC PROCESSES
Random walk, Markov chains, discrete and continuous parameter Markov processes, branching processes, birth and death processes, queuing processes.
Three lectures; one term
Prerequisite: MATH 2A03 or 2X03; and STATS 2D03

STATS 3V03 STATISTICAL ANALYSIS FOR ENGINEERING
Introduction to probability, univariate and multivariate random variables and their distributions, statistical estimation and inference, regression and correlation, decision making, applications.
Three lectures; one term
Prerequisite: Registration in a program in Engineering above Level I or above of any program in Engineering.

STATS 4A03 TIME SERIES
Stationary, auto-regressive and moving-average series, Box-Jenkins methods, trend and seasonal effects, tests for white noise, estimation and forecasting methods, introduction to time series in the frequency domain.
Three lectures; first term
Prerequisite: MATH 3A03, STATS 3D03; and STATS 3A03 or 4B03

STATS 4C03 GENERALIZED LINEAR MODELS
Normal linear model, exponential family, iteratively-reweighted least squares, logistic regression, Poisson regression and log-linear models, other families of GLM's, analysis of deviance and model checking, residual analysis.
Three lectures; one term
Prerequisite: STATS 3A03 or 4B03, and STATS 3D03

STATS 4D03 INTERMEDIATE PROBABILITY THEORY
Construction of probability spaces and random variables, integration, conditional expectation, law of large numbers, convergence of series, weak convergence, characteristic functions and central limit theorems, martingales.
Three lectures; one term
Prerequisite: MATH 3A03, STATS 2D03

STATS 4E03 BROWNIAN MOTION AND DIFFUSION
Brownian motion, stochastic integrals, one-dimensional Ito's formula, diffusion processes, option pricing and other financial applications, simulation of the Black-Scholes formula and related models.
Three lectures; one term
Prerequisite: STATS 2D03

STATS 4F03 CATEGORICAL DATA ANALYSIS
Two-way and three-way contingency tables, logistic regression, loglinear models for contingency tables, collapsibility, ordinal associations, multicategory logit models.
Three lectures; one term
Prerequisite: STATS 3A03 or 4B03; and STATS 3D03

STATS 4H03 OPERATIONS RESEARCH
Network models and algorithms, dynamic models, queuing models and other topics.
Three lectures; one term
Prerequisite: MATH 2R03, and STATS 3D03 or 4B03

STATS 4I03 ADVANCED APPLIED STATISTICS
Statistical computing, statistical software packages, working with large data sets, exploratory data analysis, graphical methods, statistical consulting practice.
Three lectures, second term
Prerequisite: STATS 4M03 and credit or registration in STATS 3A03 or 4B03

STATS 4W03 TOPICS IN STATISTICS
Directed reading in areas of statistics of interest to the student and the instructor.
Prerequisite: Permission of the Chair of the Department.

MECHANICAL ENGINEERING

WEB ADDRESS: http://www.mech.mcmaster.ca
John Hodgins Engineering Building, Room 316
Ext. 24294

Faculty as of January 15, 2007

Chair
Samir Zieda

Professors
Samir Zieda/B.Sc. (Alexandria), M.Eng. (McMaster), Ph.D. (Lehigh)

Adjunct Professors
Vincenzo M. Sowa/B.Sc. (Illinois), M.A. (Purdue), Ph.D. (Waterloo)

Associate Professors
Gary Bone/B.Sc. (Queen's), M. Eng., Ph.D. (McMaster), P.Eng.
Chan Y. Ching/B.S. (Peradeniya), Ph.D. (Syracuse), P.Eng.
Saeid Habibi/B.Sc. (Dundee), Ph.D. (Cambridge), P.Eng.
Mehran Kasra/B.Sc./Ph.D. (McGill), Ph.D. Ext. (École Polytechnique)
Marilyn F. Lightstone/B.Sc. (Queen's), M.Sc., Ph.D. (Waterloo), P.Eng.
Joseph R. McDermid/B.Sc. (Queen's), M.Eng., Ph.D. (McGill), Stelco NSERC Industrial Research Chair in Steel Product Application
Sumanth Shankar/B.Tech. (Banaras Hindu), Ph.D. (Worcester Polytechnic) Braley-Orlick Chair in Advanced Manufacturing
Mateusz P. Sklad/M.Sc., Ph.D. (Warsaw)
Peidong W.W.B.Sc. (Zhejiang), M.Eng. (China University of Mining), Ph.D. (Delft)

Assistant Professors
Hanspeter Frei/HTL (Bern), M.Sc. (Dundee), Ph.D. (British Columbia)
MECHANICAL ENGINEERING

Enrolment in Mechanical Engineering courses by students in programs other than those administered by the Department may be restricted.

Courses
If no prerequisite is listed, the course is open.

**MECH ENG 2B03** MECHANICAL ENGINEERING MEASUREMENTS
Static and dynamic characteristics of instruments, statistical analysis of measurement errors, variable conversion elements and signal amplification. Metrology, measurement of strain, stress, pressure, force, flow, temperature and power. Technical writing and communication.

Two lectures; one lab (three hours); second term
Prerequisite: Registration in Level II of any Mechanical Engineering or Mechatronics Engineering program
Antirequisite: MECH ENG 2B02

**MECH ENG 2C03** MECHANICAL ENGINEERING DESIGN I
Lectures on Geometric Dimensioning and Tolerancing. Design projects involving modeling, analysis, synthesis, computing and drawing.

Two lectures; one lab (three hours); second term
Prerequisite: Registration in Level II of any Mechanical Engineering program

**MECH ENG 2D03** MECHANICAL ENGINEERING DESIGN ELEMENTS
Design synthesis, fundamental principles of standard design elements, mechanical and fluid power elements, formal mechanical design drawing requirements, component specification and optimization.

Three lectures; first term
Prerequisite: Registration in Level II of any Mechanical Engineering program

**MECH ENG 2P04** STATICS AND MECHANICS OF MATERIALS
Principles of statics as applied to deformable solid bodies. Stress and strain, elastic behaviour of simple members under axial force, bending and torsion. Principle stresses; deflection of beams; statical indeterminacy.

Three lectures, plus one unit comprising tutorials or lectures devoted to applications at the discretion of the instructor, first term
Prerequisite: PHYSICS 1D03
Antirequisite: ENGINEER 2P04

**MECH ENG 2Q04** ENGINEERING MECHANICS: KINETICS AND DYNAMICS
Kinematics and dynamics of particles and rigid bodies. Analysis of planar mechanisms. Displacement, velocity and acceleration analysis methods. Motion with respect to a rotating frame reference. Work, energy and momentum principles.

Three lectures, plus one unit comprising tutorials or lectures devoted to applications at the discretion of the instructor, first term
Prerequisite: Registration in Level II of any Mechanical Engineering or Mechatronics Engineering program
Antirequisite: CIV ENG 2Q04, ENGINEER 2Q04

**MECH ENG 3A03** ENGINEERING MECHANICS
Singularity functions, generalized Hooke's law, shear stress, shear flow in beams, shear centre (Ish), centrelines, bending, analysis of indeterminate beams and frames using energy methods, impact loads, Buckling of compression members. Introduction to yield criteria.

Three lectures; second term
Prerequisite: ENGINEER 2P04 or MECH ENG 2P04

**MECH ENG 3C03** MANUFACTURING ENGINEERING
A general introduction, encompassing the wide field of activities from iron and steel making through casting, rolling, forging, to cold forming, metal cutting, welding, bonding, electrical machining, surface treatment, mechanical handling, assembly, cleaning, packaging.

Three lectures; second term
Prerequisite: Registration in any Mechanical Engineering or Chemical Engineering program

**MECH ENG 3D03** THERMODYNAMICS OF ENERGY SYSTEMS
Re-examination of laws of thermodynamics, analysis using second law of thermodynamics, multicomponent systems, psychrometry, HVAC systems, combustion systems, steam power systems and micro-hydro systems.

Three lectures; first term
Prerequisite: MECH ENG 2W04

**MECH ENG 3E05** MECHANICAL ENGINEERING DESIGN II
3-D stress transformation, curved beams, thick walled pressure vessels, contact stresses, fatigue, bolted and welded joints, machine elements. The laboratories feature a major design project from concept development through analysis to formal report preparation.

Four lectures, one lab (two hours); second term
Prerequisite: ENGINEER 2W04 for MECH ENG 2P04, and MECH ENG 2Q04, 3A03
Antirequisite: MECH ENG 3E04

**MECH ENG 3F04** MODELLING AND NUMERICAL SOLUTIONS
An introductory course in numerical analysis covering such topics as solution of differential and non-linear equations, matrices and systems of linear equations. One tutorial period, every other week, devoted to the modelling of mechanical systems.

Three lectures; one tutorial; first term
Prerequisite: Registration in any Mechanical Engineering program

**MECH ENG 3M02** COMPOSITE LABORATORY
Laboratory exercises in fluid mechanics, thermodynamics and solid mechanics.

One lab (three hours); both terms
Prerequisite: Registration in any Mechanical Engineering program

**MECH ENG 3P04** FLUID MECHANICS
Fluid properties and statics, conservation laws, applications of the continuity, momentum and energy equations, dimensional analysis and similarity, boundary layer flow, internal and external flows.

Three lectures, one tutorial (two hours); first term
Prerequisite: MATH 2M06, 2M03 and 2M04, or both MATH 2P04 and 2Q04; and registration in any Mechanical Engineering program

**MECH ENG 3R03** HEAT TRANSFER

Three lectures; second term
Prerequisite: MATH 2M06 (or 2M03 and 2M04), MECH ENG 2W04

**MECH ENG 4B03** TOPICS IN PRODUCT DEVELOPMENT
Case studies using modern product development methods, value engineering, product specification, rapid product development, lean design and continuous improvement. Product liability and robust design.

Three lectures; first term
Prerequisite: Registration in Level IV or above of a Mechanical Engineering or Mechatronics Engineering program or permission of the department

**MECH ENG 4BB3** BIOMECHANICS
Application of mechanical engineering principles to biomechanics problems including cellular biomechanics, hemodynamics, circulatory system, respiratory system, muscles and movement and skeletal biomechanics.

Three lectures; first term
Prerequisite: MECH ENG 2Q04, 3A03, 3C04; or permission of the department

**MECH ENG 4CC3** EXPERIMENTAL AND COMPUTATIONAL BIOMECHANICS
Introduction to experimental and computational biomechanics including biomechanical testing concepts and application of finite element methods in simulations of biomechanical structures/systems.

Three lectures; second term
Prerequisite: MECH ENG 4BB3, 4T03, STATS 3Y03; or permission of the department
MECH ENG 4D03  MANUFACTURING PROCESSES (METAL REMOVAL)  
Three lectures; second term.  
Prerequisite: MECH ENG 3C03  
MECH ENG 4E03  MICROELECTROMECHANICAL SYSTEMS (MEMS)  
Introduction, microfabrication and micromachining fundamentals, scaling effects, mechanics and transduction at microscale, actuation and sensing methods - Electrostatic, piezoelectric, thermal, electromagnetic, resonant, tunneling and microfluidic techniques. Capacitative sensors, resonators, lab on chip devices, microfluidic devices, micromirrors, assembly techniques for MEMS, microsystem packaging.  
Three lectures; second term.  
Prerequisite: Registration in Level IV or above of a Mechanical Engineering program or permission of the department.  
MECH ENG 4H03  MECHATRONICS  
Integration of mechanical engineering with electronics and computer control. Sensors, actuators (including pneumatic and hydraulic), modeling using building block and state space methods, model-based control, programming of PLCs with practical demonstrations.  
Three lectures; second term.  
Prerequisite: One of CHEM ENG 3P03, ELEC ENG 3C03, 3TP4 or MECH ENG 4R03  
MECH ENG 4I03  NOISE ANALYSIS AND CONTROL  
Acoustic quantities: noise measurements and analysis; noise standards; sound generation, propagation, absorption, transmission; acoustic materials; noise control techniques; case studies.  
Three lectures; second term.  
Prerequisite: MECH ENG 4Q03  
MECH ENG 4J03  INTRODUCTION TO COMPUTATIONAL FLUID MECHANICS AND HEAT TRANSFER  
Three lectures; second term.  
Prerequisite: MECH ENG 3P04  
MECH ENG 4K03  INTRODUCTION TO ROBOTIC MECHANICS  
Spatial descriptions and transformations, manipulator kinematics, inverse kinematics, Jacobians, dynamics.  
Three lectures; first term.  
Prerequisite: ENGINEER 2Q04 or MECH ENG 2Q04  
MECH ENG 4L03  INDUSTRIAL DESIGN  
Introduction for engineering students to the techniques of industrial design, case studies and introduction to illustration techniques.  
Three lectures; second term.  
Prerequisite: MECH ENG 2C03  
MECH ENG 4M05  PROJECT  
A major mechanical or manufacturing engineering design or experimental project to be completed under the supervision or co-supervision of a faculty member holding an appointment in the Department of Mechanical Engineering.  
Two labs (three hours), first term; four labs (three hours), second term.  
Prerequisite: Registration in Level IV Mechanical Engineering; or Level V Mechanical Engineering and Management or Mechanical Engineering and Society  
MECH ENG 4P02  COMPOSITE LABORATORY  
Laboratory exercises in vibration analysis, machine structures, controls, heat transfer, gas dynamics, fluid mechanics and thermodynamics. One lab (three hours); both terms.  
Prerequisite: MECH ENG 3M02 and registration in any Mechanical Engineering program.  
MECH ENG 4Q03  MECHANICAL VIBRATIONS  
Transient and steady state vibration of single- and multi-degree of freedom systems. Free and forced vibrations of single and multiple degree-of-freedom mechanical systems, transient response, damping and vibration isolation.  
Three lectures; first term.  
Prerequisite: ENGINEER 2Q04 or MECH ENG 2Q04  
MECH ENG 4R03  CONTROL SYSTEMS  
Fundamentals of linear, continuous control systems. Control system performance in both time and frequency domains. Design and analysis of controllers. Three lectures; second term.  
Prerequisite: Registration in Level III Mechanical Engineering; or Level IV Mechanical Engineering and Management or Mechanical Engineering and Society  
Antirequisite: ELEC ENG 3C03, 3CK4, 3TP4  
MECH ENG 4S03  INCOMPRESSIBLE FLOW  
Introduction to internal and external laminar and turbulent incompressible flows. Topics include turbulent boundary layers, aerodynamics and convective heat transfer.  
Three lectures; first term.  
Prerequisite: MECH ENG 3004  
MECH ENG 4T03  FINITE ELEMENT APPLICATIONS  
Theory of the finite element method, element derivation, solution procedures. Application to static and dynamic mechanical systems using a finite element package. Two lectures, one tutorial (one hour), one lab (two hours) alternate weeks, first term.  
Prerequisite: Registration in Level IV or V of any Mechanical Engineering program.  
MECH ENG 4U03  COMPRESSIBLE FLOW AND TURBOMACHINERY  
Compressible flows. Fanno and Rayleigh flows, normal and oblique shocks. Turbomachines: axial and radial flow gas and steam turbines, axial and radial flow compressors and fans. Three lectures; second term.  
Prerequisite: MECH ENG 2W04, 3004  
MECH ENG 4V03  THERMO-FLUIDS SYSTEMS DESIGN AND ANALYSIS  
Design, operation and application characteristics of equipment commonly used in thermal systems. Modeling performance characteristics of piping systems, pumps, compressors, fans, heat exchangers, boilers and cooling towers. System simulation and optimization. Selection criteria of thermal equipment. Design optimization and system performance evaluation. Three lectures; first term.  
Prerequisite: MECH ENG 2W04, 3004, 3R03  
MECH ENG 4Z03  CAD/CAM/CAE  
Solid modeling, part creation, assemblies and rigid bodies, mechanism simulation, B-Splines, data exchange, CNC machining and inspection. Major project using computer laboratory facilities. Three lectures, one lab (one hour); second term.  
Prerequisite: Registration in Level IV or above of any Mechanical Engineering program.  
MECHATRONICS ENGINEERING  
WEB ADDRESS: http://www.cas.mcmaster.ca  
Information Technology Building, Room 202  
Ext. 24614  
Notes:  
1. Courses in Mechatronics Engineering are administered within the Department of Computing and Software in the Faculty of Engineering.  
2. All Mechatronics Engineering courses are open to students registered in a Mechatronics Engineering program, subject to prerequisite requirements. Prior permission of the Department is necessary for other students.  
3. Students registered in Mechatronics Engineering are not allowed to substitute any of the required courses containing Engineering Science or Engineering Design content with any courses offered by a non-CEAB accredited Engineering program.  

Courses:  
MECHTRON 3TA4  EMBEDDED SYSTEMS DESIGN I  
Interfacing to digital and analog systems, sensors and actuators. Signals and conditioning: data acquisition, active and passive filtering, optical and analog isolation, PWM, del/multiplexing. Architecture of micro-controllers and DSP. Embedded system design and documentation. Three lectures; one tutorial (two hours) every other week, one lab (three hours) every other week; first term.  
Prerequisite: ENG PHYS 2E04  
Corequisite: SFWR ENG 3K04
Faculty as of January 15, 2007

Chair
Fiona E. McNeill

Professor
David R. Chettle/B.Sc., M.Sc., Ph.D. (Birmingham)
Carmel E. Mothersill/B.Sc., Ph.D. (University College Dublin)
Michael S. Patterson/B.Sc. (Queen's), M.Sc. (McMaster), Ph.D. (Toronto)
Colin B. Seymour/DCR(RT) (Guy's Hospital), B.L. (King's Inn), Ph.D. (Trinity College Dublin)/Chair, Committee of Instruction, Honours Medical and Health Physics Co-op

Associate Professors
Douglas A. Boreham/B.Sc. (Laurentian), Ph.D. (Ottawa)/Chair, Committee of Instruction, Honours Medical and Health Physics Co-op
Thomas J. Farrell/B.Sc., B.Ed. (Toronto), M.Sc. (Western Ontario), Ph.D. (McMaster)
Flora E. McNell/B.Sc. (Edinburgh), Ph.D. (Birmingham)
John F. Valliant/B.Sc., Ph.D. (Edinburgh)
Douglas R. Wymar/B.Math (Waterloo), Ph.D. (McMaster)

Assistant Professors
Soo Hyun Byun/B.Sc., M.Sc., Ph.D. (Seoul National University)
Joseph E. Hayward/B.Eng., M.Eng., Ph.D. (McMaster)
Gianni Parise/B.Eng., M.Sc., Ph.D. (McMaster)

Associate Members
Richard G. Butler (Pathology)/B.Sc., M.Sc. (Toronto), Ph.D. (A.N.U. Canberra), M.B.A. (McMaster)
Troy Famcombe/Radology)/B.Sc. (Calgary), M.Sc., Ph.D. (British Columbia)
Andrew J. Rainbow (Biophysics)/B.Sc. (Manchester), M.Sc. (London), Ph.D. (McMaster)
Colin E. Webster/Radology)/B.Sc. (Birmingham), M.Phil., Ph.D. (Surrey)

Mohawk College of Applied Arts and Technology

Associate Dean, Medical Radiation and Rehabilitation Sciences School of Health Sciences
Diane Barratt/Dipl, M.R.T. (R), RTR

Coordinator, Radiation Therapy Specialization
Lyn Padon

Coordinator, Radiography Specialization
Caroline Falconi

Coordinator, Ultrasound Specialization
Lori Kozio

Coordinator, Clinical Education
Lori Kozio

Faculty
Melanie Spence-Ariëniema/B.Sc. (McMaster), M.R.T. (T), B.Ed. (AEDE) (Brook)
Mary Ayre/ RTR, RDMS
Catherine Baxter/B.Sc. (Toronto), M.R.T. (R), RTR
Dennis Courtemoy/B.Sc. (Geophy), Dipl H.S., RDMS, RVT
Caroline Falconi/Dipl, B.App.Sc. (Med Im), M.App.Sc. (Med Im) (Charles Sturt), M.R.T. (R), RTR
Malka Glasner/B.Sc. (York), Dipl.H.S., RDMS, CRGS
Janice Gyorffy/ Dipl, RTR, RDMS
Lori Kozio/B.App.Sc. (Med Im) (Charles Sturt), Dipl, RTR, RDMS, FSOMS, CRGS
Margaret MacDonald/Dipl, RTNM, RDMS, RDCS
Leslie R., Murray/B.App.Sc. (Med Im), M.App.Sc. (Med Im) (Charles Sturt), M.R.T. (R), RTR
Lyn Padon/B.Sc. (East Anglia), M.R.T. (T), A.C.(T)
D. Edward Scott/Dipl, M.App.Sc. (Med Us) (Charles Sturt), RTR, RDMS, RDCS, RVT
Alesh Singh/Dipl.H.S., B.App.Sc. (Med Im) (Charles Sturt), M.R.T. (R), RTR
Greg Toffner/Dipl.H.S., B.App.Sc. (Med Im) (Charles Sturt), M.R.T. (R), RTR
Mary Tuttle/Dipl, M.R.T. (R), RTR, RDMS

Antirequisite: MED PHYS 3101, 4A03, 4A01, 4H01, PHYSICS 3101, 4A03, 4A01, 4H01
Antirequisite: MED PHYS 4A03, 4A01, 4H01, PHYSICS 4A03, 4A01
Antirequisite: MED PHYS 4A03, 4A01, 4H01, PHYSICS 4A03, 4A01
Antirequisite: MED PHYS 4A03, 4A01, 4H01, PHYSICS 4A03, 4A01
Antirequisite: MED PHYS 4A03, 4A01, 4H01, PHYSICS 4A03, 4A01
Antirequisite: MED PHYS 4A03, 4A01, 4H01, PHYSICS 4A03, 4A01

Associate Dean, Medical Radiation and Rehabilitation Sciences School of Health Sciences
Diane Barratt/Dipl, M.R.T. (R), RTR

Coordinator, Radiation Therapy Specialization
Lyn Padon

Coordinator, Radiography Specialization
Caroline Falconi

Coordinator, Ultrasound Specialization
Lori Kozio

MEDICAL PHYSICS AND APPLIED RADIATION SCIENCES...
MED PHYS 4R05 RADIATION AND RADIOISOTOPES METHODOLOGY

Techniques and theory of the measurement of radiation. Includes radioactive and radioactive decay, solid state dosimetry, principles of radio-detectors, counting statistics and data reduction, advanced multidetector systems.
Two lectures every week, one lab (three hours) every other week; two terms
Prerequisite: One of BIOLOGY 3L03, ENG PHYS 3D03, MED PHYS 3T03 or 4B03
Antirequisite: PHYSICS 4R06

MED PHYS 4S23 PHOENIX: OUT OF THE ASHES AND INTO THE ATOMIC AGE

This course will study the short and long term impact of nuclear weapons testing and use, upon humans and the environment. Students will visit critical sites where nuclear weapons were developed and detonated. The travel portion of the course will run for 10-12 days (dependent on available travel schedules) and will involve group discussions and field experiences. Students will be required to pay incidental fees over and above the normal tuition fees set by the Unit to cover travel costs.
Prerequisite: Registration in Level IV of any Honours program in the Faculty of Science
Cross-list: SCIENCE 4S23
Antirequisite: INQUIRY 4S23
Enrollment is limited. See the heading Limited Enrollment Courses in the Faculty of Science section of the Calendar.

MED PHYS 4T03 CLINICAL APPLICATIONS OF PHYSICS IN MEDICINE

Basic physical concepts underlying medical imaging, nuclear medicine, physiological measurement, radiation therapy and biomedical laser applications with an overview of their technical implementation.
Three lectures; one term
Prerequisite: MATH 2A03 or 2Q04; and MATH 2C03 or 2P04; and one of BIOLOGY 3L03, ENG PHYS 3D03, MED PHYS 3T03, 4B03; PHYSICS 3T03
Antirequisite: PHYSICS 4T03

MED PHYS 4X33 HUMAN BIOLOGY FOR PHYSICAL SCIENTISTS

An overview of the structure and the function of the major organ systems of the body with some reference to radiation interactions.
Three hours; first term
Prerequisite: Registration in Level IV of an Honours Science program; or permission of the instructor
Antirequisite: BIOLOGY 2A03, 3U03, 3U03, 4G06, HTH SCI 1D06, 1H03, 1H03, 1H03, 1H03, 2F03, 2F03, 2L03, 2L03, 2L03, KINESIOL 1A03, 1A06, 1A03, 1Y03, 1Y03

Notes:

1. Courses for Levels I, II, III and IV Medical Radiation Sciences, Radiography, Ultrasonography or Radiation Therapy specialization are available only to students registered in the Medical Radiation Sciences program.
2. Lab courses may be held at learning settings external to the University.
3. Students are responsible for arranging their own travel to and from or accommodation in learning settings external to the University and for covering any costs incurred. All students enrolled in the Medical Radiation Sciences program are expected to be able to travel to any learning setting in Ontario. The final assignment of learning settings for any clinical practicum course is constrained by the availability of the requested setting and resources. Students may, therefore, be required to complete a clinical practicum course in a learning setting that is not of their choosing.
4. All Level IV courses will commence in 2007-2008.

MEDICAL RADIATION SCIENCES...

WEB ADDRESS: http://www.science.mcmaster.ca/MedRadSci
Nuclear Research Building, Room 104
Ext. 26256

Courses

MEDRADSC 1A03 INTRODUCTION TO MEDICAL RADIATION SCIENCES
An introduction to the field of medical radiation sciences with particular emphasis on the medical radiation science professions and their subspecialties, examining current applications in health care and future trends.
One hour (lecture) first term; one hour (lecture), three hours (tutorial) second term; two terms
Prerequisite: Registration in Medical Radiation Sciences I

MEDRADSC 1B03 INTRODUCTION TO PATHOLOGY
Processes of disease and trauma, from damage and repair processes at the cellular level to tissues and systems. Disease development and recovery, immunity and heredity are examined.
Three hours (lectures); one term
Prerequisite: KINESIOL 1Y03 and registration in Medical Radiation Sciences I
Corequisite: Credit or registration in BIOLOGY 1A03, KINESIOL 1Y03

MEDRADSC 1C03 INTRODUCTION TO PHYSICS FOR MEDICAL RADIATION SCIENCES
Fundamental physics relevant to Medical Radiation Sciences, wave motion, electricity, magnetism, heat, radioactivity and radiation interaction, absorption and emission of light and applications in Medical Radiation Sciences.
Three lectures; one term
Prerequisite: PHYSICS 1P03 or a grade of at least 60% in Grade 12 Physics U; and registration in Medical Radiation Sciences I

MEDRADSC 1D03 INTRODUCTION TO PROFESSIONAL PRACTICE
Introduction to the legislative and regulatory frameworks of health care and health care professions, the behaviours and attitudes required of a health care professional and concepts of reflective practice.
Two hours (lectures), two hours (tutorial); one term
Prerequisite: Registration in Medical Radiation Sciences I
Antirequisite: MEDRADSC 2C03

MEDRADSC 2A03 PATIENT CARE
Theoretical foundation and skills development to enable the student to meet the physical and emotional needs of patients in the clinical setting while utilizing self-care concepts and safe practices.
This course is evaluated on a Pass/Fail basis.
Two hours (lectures), two hours (lab); one term
Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

MEDRADSC 2B03 MEDICAL INFORMATICS
Examination of the acquisition, storage, communication and security of digital patient records in health care facilities.
Two hours (lectures), one hour (lab); one term
Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

MEDRADSC 2C03 INTRODUCTION TO PROFESSIONAL PRACTICE
Introduction to the legislative and regulatory frameworks of health care and health care professions, the behaviours and attitudes required of a health care professional, and concepts of reflective practice.
Two hours (lectures), two hours (tutorial); one term
Prerequisite: Registration in Level II of a Medical Radiation Sciences Specialization

MEDRADSC 2D03 RELATIONAL ANATOMY I
This course examines spatial relationships of anatomical structures (appendicular and axial skeleton, excepting skull, plus structures of the pelvic and thoracic cavities) using projection, sectional and volume-rendered images.
Two hours (lectures), two hours (lab); one term
Prerequisite: Registration in Level II of the Radiography or the Radiation Therapy Specialization

MEDRADSC 2E03 RADIOGRAPHIC IMAGE PRODUCTION
Image production, processing and display of analogue and digital radiographic images are covered. Image quality in terms of spatial and contrast resolution are explored.
Two hours (lectures), one hour (lab), one hour (tutorial); one term
Prerequisite: Registration in Level II of the Radiography or Radiation Therapy Specialization
MEDRADSC 2F03 RADIOGRAPHIC PHYSICS AND INSTRUMENTATION
The course focuses on the production of x-rays in radiography and the interactions of x-rays with matter. Control of beam quality and quantity is related to image quality and dose minimization.
Two hours (lectures), one hour (lab), one hour (tutorial); one term
Prerequisite: Registration in Level II of the Radiography or the Radiation Therapy Specialization

MEDRADSC 2G03 RADIOGRAPHIC SKILLS
Fundamental radiographic techniques and basic radiography of the appendicular skeleton through image production using anatomical phantoms and performance of simulated examinations on peers. This course is evaluated on a Pass/Fail basis.
One hour (lecture), two labs, two hours each; one term
Prerequisite: Registration in Level II of the Radiography Specialization

MEDRADSC 2H03 RADIOGRAPHIC SKILLS II
Radiography of the axial skeleton, chest, abdomen and skull through image production using anatomical phantoms and performance of simulated examinations on peers. This course is evaluated on a Pass/Fail basis.
One hour (lecture), four hours (lab); one term
Prerequisite: MEDRADSC 2G03 and registration in Level II of the Radiography Specialization

MEDRADSC 2I03 PATHOLOGY AND PROCEDURES
Radiological procedures and associated pathologies of the skeletal, digestive, respiratory and urinary systems. Physiological properties of contrast media and their use in radiological procedures is studied.
Three hours (lectures); one term
Prerequisite: Registration in Level II of the Radiography Specialization

MEDRADSC 2J15 RADIOGRAPHY CLINICAL PRACTICUM
Four month placement in a Diagnostic imaging department. Students develop clinical and professional skills by participating in radiological procedures under direct supervision of a qualified professional. This course is evaluated on a Pass/Fail basis.
One term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 2A03, 2C03, 2D03, 2E03, 2F03, 2H03, 2I03 and registration in Level II of the Radiography Specialization

MEDRADSC 2K03 SONOGRAPHIC PHYSICS AND INSTRUMENTATION
This course will examine the following topics: physical principles associated with propagation of ultrasound in tissues, attenuation of sound in tissues, ultrasound instrumentation, image quality and bioeffects.
Three hours (lectures), one hour (lab), one hour (tutorial); one term
Prerequisite: Registration in Level II of the Ultrasonography Specialization

MEDRADSC 2L03 ABDOMINAL ULTRASONOGRAPHY
A comprehensive study of the relational anatomy, normal and abnormal conditions of major abdominal organs; general pathologic conditions; application to the vascular and reticulo-endothelial systems with sonographic correlation.
Three hours (lectures), one hour (tutorial); one term
Prerequisite: Registration in Level II of the Ultrasonography Specialization

MEDRADSC 2M03 OBSTETRICAL AND GYNECOLOGIC ULTRASONOGRAPHY I
A comprehensive study of the anatomy, physiology of the normal female pelvis including pregnancy. Sonographic technique, normal appearances, patient care and ethical issues will be examined.
Three hours (lectures), one hour (tutorial); one term
Prerequisite: Registration in Level II of the Ultrasonography Specialization

MEDRADSC 2N03 SONOGRAPHIC SKILLS I
Emphasis is on performance of sonography of the pancreas, urinary system, complete abdomen and female pelvis to include routine and alternate techniques, image recognition, patient care, communication and ergonomics. This course is evaluated on a Pass/Fail basis.
One hour (lecture), four hours (lab); one term
Prerequisite: Registration in Level II of the Ultrasonography Specialization

MEDRADSC 2P03 ABDOMINAL ULTRASOUND II
A comprehensive study of the pathologic conditions of hepatic, biliary, pancreatic and urinary tract organs, relational anatomy and anomalous conditions of the thyroid; correlation of sonographic findings, clinical presentation and other diagnostic tests.
Three hours (lectures), one hour (tutorial); one term
Prerequisite: MEDRADSC 2L03 and registration in Level II of the Ultrasonography Specialization

MEDRADSC 2Q03 SONOGRAPHIC SKILLS II
Emphasis is on performance of sonography of the pancreas, urinary system, complete abdomen and female pelvis to include routine and alternate techniques, image recognition, patient care, communication and ergonomics. This course is evaluated on a Pass/Fail basis.
One hour (lecture), four hours (lab); one term
Prerequisite: MEDRADSC 2N03 and registration in Level II of the Ultrasonography Specialization

MEDRADSC 2R15 ULTRASONOGRAPHY CLINICAL PRACTICUM
Four month placement in a Diagnostic imaging department. Students develop clinical and professional skills by participating in sonographic procedures under direct supervision of a qualified professional. This course is evaluated on a Pass/Fail basis.
One term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 2A03, 2C03, 2K03, 2M03, 2Q03, 2R03 and registration in Level II of the Ultrasonography Specialization

MEDRADSC 2S03 CLINICAL ONCOLOGY I
This course introduces the oncologic concepts that characterize all malignancies. Topics include epidemiology, etiology, signs and symptoms, routes of spread, staging and management. An in-depth study of some of the more common disease sites is also done.
Three hours (lectures); one term
Prerequisite: Registration in Level II of the Radiation Therapy Specialization

MEDRADSC 2T03 CLINICAL ONCOLOGY II
This course builds on MEDRADSC 2S03 (Clinical Oncology I) through an in-depth study of the remainder of prevalent malignancies.
Three hours (lectures); one term
Prerequisite: MEDRADSC 2S03 and registration in Level II of the Radiation Therapy Specialization

MEDRADSC 2U03 RADIATION THERAPY SKILLS I
Students are introduced to the professional behaviours and skills involved in interacting and treating cancer patients. Basic radiation therapy treatment techniques are taught and evaluated through simulated labs. This course is evaluated on a Pass/Fail basis.
One hour (lecture), two labs (two hours each); one term
Prerequisite: MEDRADSC 2S03 and registration in Level II of the Radiation Therapy Specialization

MEDRADSC 2V15 RADIATION THERAPY CLINICAL PRACTICUM I
Four month placement in a Radiation Therapy department. Students develop clinical skills by participating in various areas of a Radiation Therapy department under direct supervision of a qualified professional. This course is evaluated on a Pass/Fail basis.
One term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 2A03, 2C03, 2D03, 2E03, 2F03, 2H03, 2I03 and registration in Level II of the Radiation Therapy Specialization

MEDRADSC 2W03 DIGITAL IMAGE MANAGEMENT
Using concepts of digital databases in health care, picture archiving and communication systems are examined, with attention to DICOM conformance standards and interconnectivity of medical imaging devices.
Three hours (lectures), one hour (lab or tutorial); one term
Prerequisite: MEDRADSC 2B03 and registration in Level III of the Radiography or Ultrasonography Specialization

MEDRADSC 2X03 QUALITY MANAGEMENT IN MEDICAL RADIATION SCIENCES
Examination of various quality management methodologies in health care facilities, external accreditation processes and legislation associated with quality in Medical Radiation Sciences. Two hours (lectures), two hours (tutorial); one term (Offered in Spring/Summer session only)
Prerequisite: Registration in Level III of a Medical Radiation Sciences Specialization

MEDRADSC 2Y03 MULTIDISCIPLINARY INTERVENTIONAL PROCEDURES
A survey of changing approaches to treating pathologies of various organ systems through intervention using image guidance.
Three hours (lectures); one term (Offered in Spring/Summer session only)
Prerequisite: Registration in Level II of the Radiography or Ultrasonography Specialization
MEDRADSC 3D03 - QUALITY CONTROL IN RADIOGRAPHY
Students perform quality control testing procedures on both analogue and digital radiographic equipment, comparing equipment performance to legislated standards and best practice concepts. One hour (lecture), two hours (lab); one term
Prerequisite: MEDRADSC 3G03 and registration in Level III of the Radiography Specialization

MEDRADSC 3G03 - RELATIONAL ANATOMY II
This course examines the spatial relationships of anatomical structures (concerning cranial, neck and abdominal concepts) using projection, sectional and volume-rendered images. Two hours (lectures), two hours (lab); one term
Prerequisite: MEDRADSC 2D03 and registration in Level III of the Radiography or the Radiation Therapy Specialization

MEDRADSC 3J03 - PATHOLOGY AND PROCEDURES II
Radiological procedures and sonographic appearances of associated pathologies of the cardiovascular, endocrine, nervous and reproductive systems. Three hours (lectures); one term
Prerequisite: MEDRADSC 2I03 and registration in Level III of the Radiography Specialization

MEDRADSC 3K03 - COMPUTED TOMOGRAPHY
Processes of data acquisition, image reconstruction and post-processing are discussed. Scan protocol optimization in terms of image quality, demonstrated structures and patient dose are examined. Labs include scanning of anatomical phantoms. Three hours (lectures), one lab; one term
Prerequisite: MEDRADSC 3I03 and registration in Level III of the Radiography or the Radiation Therapy Specialization

MEDRADSC 3L03 - RADIOGRAPHIC SKILLS III
Radiography of cranio-facial structures and development of case management and adaptation skills in modifying standard radiographic procedures to the special needs patient. This course is evaluated on a Pass/Fail basis.
One hour (lecture), four hours (lab); one term (Offered in Summer/spring session only)
Prerequisite: MEDRADSC 2J15 and registration in Level III of the Radiography Specialization

MEDRADSC 3M03 - ABDOMINAL ULTRASONOGRAPHY III
A comprehensive overview with sonographic correlation of the abdominal anatomy, normal and pathological conditions of the adrenal glands, abdominal and pelvic cavities, GI tract and specific superficial structures. Three hours (lectures); one hour (tutorial); one term
Prerequisite: MEDRADSC 2o03 and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3N03 - VASCULAR ULTRASONOGRAPHY
Vascular anatomy, physiology, flow hemodynamics, sonographic technique of normal and pathological flow states; relevant alternative methods of assessing the vasculature of the head, neck, abdomen and extremities. Three hours (lectures); one term
Prerequisite: MEDRADSC 2K03 and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3O03 - SONOGRAPHIC SKILLS III
Emphasis is on performance of sonography of superficial structures, doppler of abdominal and peripheral vasculature to include routine and alternate techniques, imaging recognition, patient care, communication and ergonomics. This course is evaluated on a Pass/Fail basis.
One hour (lecture), four hours (lab); one term
Prerequisite: MEDRADSC 2N03, 2R15 and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3P03 - OBSTETRICAL AND GYNECOLOGICAL ULTRASONOGRAPHY III
A comprehensive study of obstetric anomalies and abnormal sonographic appearances of amniotic fluid, fetal growth, fetal syndromes, Doppler studies of the gravid patient and fetal anomalies of each system. Three hours (lectures); one hour (tutorial); one term
Prerequisite: MEDRADSC 3P3A and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3P3A - OBSTETRICAL AND GYNECOLOGICAL ULTRASONOGRAPHY II
A comprehensive study of gynaecological pathologies and abnormal sonographic appearances of the female pelvis. Pathologies of the obstetrical patient will be examined. Three hours (lectures); one hour (tutorial); one term
Prerequisite: MEDRADSC 2M03 and registration in Level III of the Ultrasonography Specialization
Antirequisite: MEDRADSC 2P03
MEDRADSC 3Q03 SONOGRAPHIC PHYSICS AND INSTRUMENTATION II
Recent and emerging technological advances in ultrasound instrumentation. Emphasis will be placed on the added diagnostic value provided by the technology and new applications for the instrumentation. Three hours (lectures), one hour (lab), one hour (tutorial); one term
Prerequisite: MEDRADSC 2K03 and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3R03 MUSCULOSKELETAL ULTRASONOGRAPHY
Sonographic correlation of upper/lower extremity joint anatomy; normal and pathologic musculoskeletal structures using standard scanning techniques and protocols. Two hours (lectures), one hour (lab); one term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 2R15 and registration in Level III of the Ultrasonography Specialization

MEDRADSC 3S03 TREATMENT PLANNING I
In this course students gain the skills required to plan and calculate radiation therapy treatments independently for a variety of sites under varying conditions. Two hours (lectures), three hours (lab); one term
Prerequisite: MEDRADSC 2V15 and registration in Level III of the Radiation Therapy Specialization

MEDRADSC 3T03 APPLIED PATIENT CARE IN RADIATION THERAPY
This course presents the theory and skills to provide the radiation therapy patient with appropriate patient care. Patient assessment, professional practice, radiation therapy treatment plans and the management of radiation therapy toxicities will be emphasized. Two hours (lectures); one hour (lab); one term
Prerequisite: MEDRADSC 2V15 and registration in Level III of the Radiation Therapy Specialization

MEDRADSC 3U03 RADIATION PROTECTION AND RADIATION BIOLOGY IN RADIATION THERAPY
This course provides an in depth understanding of radiation protection and radiobiological principles related to high energy radiation used in Radiation Therapy. Three hours (lectures); one term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 3F03, 3G03, 3T03 and registration in Level III of the Radiation Therapy Specialization

MEDRADSC 3V03 TREATMENT PLANNING II
This course further develops dosimetry problem-solving skills. Photon and electron beams, brachytherapy, conformal therapy and intensity modulated therapy will be emphasized. Two lectures, one lab; one term
Prerequisite: MEDRADSC 3S03 and registration in Level III of the Radiation Therapy Specialization

MEDRADSC 3W03 RADIATION THERAPY SKILLS II
Students develop critical thinking, psychomotor and problem-solving skills that are required in the simulation and treatment of radiation therapy patients. The student will practice on simulators and treatment units. This course is evaluated on a Pass/Fail basis.
One lecture, one lab; one term (Offered in Spring/Summer session only)
Prerequisite: MEDRADSC 3T03, 3V03 and registration in Level III of the Radiation Therapy Specialization

MEDRADSC 3X03 RESEARCH METHODS IN MEDICAL RADIATION SCIENCES
Prepares students for applied clinical research in Medical Radiation Sciences. Topics include systematic description of observations, testing hypotheses, distinctive of quantitative and qualitative research and critical review of published literature. Three hours (lectures), one hour (tutorial), one hour (lab); one term
Prerequisite: STATS 1C03 and registration in Level III of Medical Radiation Sciences

MEDRADSC 4A15 RADIOTHERAPY CLINICAL PRACTICUM II
Four month placement in a Diagnostic Imaging department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, attaining competence in general radiography, fluoroscopy and computed tomography. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 3F03, 3G03, 3H03, 3J03, 3K03, 3L03 and registration in Level IV of the Radiography Specialization

MEDRADSC 4B15 RADIOTHERAPY CLINICAL PRACTICUM III
Four month placement in a Diagnostic Imaging department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, attaining competence in general radiography, fluoroscopy and computed tomography. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 4A15 and registration in Level IV of the Radiography Specialization

MEDRADSC 4C15 ULTRASONOGRAPHY CLINICAL PRACTICUM II
Four month placement in the Sonography department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, attaining competence in the generalist sonographic specializations. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 2R15, 3M03, 3N03, 3P03 and registration in Level IV of the Ultrasonography Specialization

MEDRADSC 4D15 ULTRASONOGRAPHY CLINICAL PRACTICUM III
Four month placement in the Sonography department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, attaining competence in the generalist sonographic specializations. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 4C15 and registration in Level IV of the Ultrasonography Specialization

MEDRADSC 4E15 RADIOTHERAPY CLINICAL PRACTICUM II
Four month placement in a Radiation Therapy department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, working towards competence in radiation therapy. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 3K03, 3T03, 3U03, 3V03, 3W03 and registration in Level IV of the Radiation Therapy Specialization

MEDRADSC 4F15 RADIOTHERAPY CLINICAL PRACTICUM III
Four month placement in a Radiation Therapy department. Students further develop clinical and professional skills, integrating theory, developing independent decision-making capacity in the management of cases, attaining competence in radiation therapy. This course is evaluated on a Pass/Fail basis.
One term
Prerequisite: MEDRADSC 4E15 and registration in Level IV of the Radiation Therapy Specialization

MIDWIFERY

WEB ADDRESS:  http://www.fhs.mcmaster.ca/midwifery

Michael G. DeGroote Centre for Learning and Discovery, Room 3103
Ext. 26654

Faculty as of January 15, 2007
Assistant Dean
Eileen Hutton
Professor
Eileen Hutton/B.Sc. (Queen’s), M.Sc.N., Ph.D. (Toronto)
Associate Professors
Paul Krueger/B.Sc., M.Sc. (Waterloo), M.H.Sc., Ph.D. (Toronto)
Derek Lobb/B.Sc. (Western Ontario), M.Sc. (Guelph), Ph.D. (Toronto)
Helen McDonald/M.H.Sc. (McMaster), R.M.
Patricia McNiven/M.Sc., Ph.D. (Toronto), R.M.
Bruce Wainman/B.Sc. (Laurentian), M.H.Sc. (McMaster), Ph.D. (York)
Assistant Professor
Anne Maiott/B.Sc.N. (Windsor), M.S.N (Case Western Reserve)
MIDWIF 1003 THE MIDWIFERY PROFESSION
Seminar presentations, discussion and arranged experiences to introduce students to the history, philosophy of care, and role of the midwife in Canada and elsewhere.
Seminar (three hours), first term
Prerequisite: Registration in the Midwifery Education Program
Antirequisite: MIDWIF 1A06

MIDWIF 2F03 PHARMACOTHERAPY
This course is an overview of basic concepts in pharmacy, pharmacology and therapeutics relevant to the practice of midwifery in Ontario. Content areas include pharmacokinetics, toxicology, adverse drug reactions during pregnancy and lactation and pharmacology in the neonate. Two lectures (three hours), one tutorial (one hour); one term
Prerequisite: HTH SCI 1D06

MIDWIF 2G03 CLINICAL SKILLS FOR MIDWIFERY PRACTICE
Lecture, demonstration and laboratory practice of fundamental skills for midwifery practice. One lecture (three hours), one lab (three hours); first term.
Prerequisite: MIDWIF 1D03
Antirequisite: MIDWIF 2A03

MIDWIF 2H15 MIDWIFERY CARE I: NORMAL CHILDBEARING
First clinical placement under the supervision of a registered midwife: students focus on beginning level skills for the care of women experiencing normal childbirth. Weekly problem-based tutorials include normal antepartum; intrapartum, postpartum and newborn care situations. Second term
Prerequisite: HTH SCI 2M03, MIDWIF 1D03, 2G03 (or 1A06); 2F03. A minimum CGA of 6.0 in first term is required.
Antirequisite: MIDWIF 2E12

MIDWIF 3A09 COMMUNITY PLACEMENTS
Three one month placements will be organized over the term. One placement will be organized with a hospital labour and delivery department and one with an obstetrician. The third placement will be chosen by the student and may take place within or outside the province or country. Second term
Prerequisite: MIDWIF 3G15 (or 2B15)

MIDWIF 3D03 HEALTH EDUCATION AND HEALTH PROMOTION
This course will incorporate concepts and principles from areas that contribute to the understanding of human behaviour in health related situations. Of special interest are teaching-learning situations that arise in primary health care settings for childbearing families. Offered by WebCT/Print Management-based. The Program reserves the right to cancel the course due to low enrolment.
One term
Prerequisite: HTH SCI 1C06

MIDWIF 3F03 MIDWIFERY SYNTHESIS PAPER
The goal of this course is the synthesis of in-depth knowledge and critical analysis about a selected topic that leads to relevant application of the information for the midwifery profession. Each student is assigned to a faculty supervisor who will work closely with the student throughout the preparation of the paper.
Second term
Prerequisite: Registration in Level III of the Midwifery Education Program

MIDWIF 3G15 MIDWIFERY CARE II
Second clinical placement under the supervision of a registered midwife: students develop additional skills in planning and providing care to women and their newborn infants. Weekly problem-based tutorials focus on a range of normal and more common abnormal situations.
First term
Prerequisite: MIDWIF 2A03, 2E12
Antirequisite: MIDWIF 2B15

MIDWIF 3H15 MIDWIFERY CARE III
Third placement in a midwifery practice: students extend skills to more complex childbearing situations. Problem-based tutorials focus on expanding the knowledge base of maternal-newborn complications, for consultation and referral, and relationships with other health care providers.
Third term
Prerequisite: MIDWIF 3G15 (or 2B15)
Antirequisite: MIDWIF 2C15

MIDWIF 4A15 MIDWIFERY CARE IV
Fourth placement in a midwifery practice. In defined situations, supervision is indirect. Students care for an assigned caseload, including situations with complications. Problem-based tutorials focus on midwifery roles and responsibilities in highly complex and urgent situations. First term
Prerequisite: MIDWIF 3H15 (or 2C15)
Antirequisite: MIDWIF 3B15

MIDWIF 4B15 MIDWIFERY CLERKSHIP
Final placement in a midwifery practice. Supervision is increasingly indirect. Students formulate and provide care to an entire caseload of women. Tutorials and workshops include case review, preparation for registration and establishing a practice in Ontario. Second term
Prerequisite: MIDWIF 4A15 (or 3B15)
Antirequisite: MIDWIF 3C12, 3E03

MODERN LANGUAGES AND LINGUISTICS

MOHAWK

Molecular Biology

The Molecular Biology courses are administered within the Faculty of Science through a Committee of Instruction, and draw on the Departments of Biochemistry and Biomedical Sciences, Biology and Pathology and Molecular Medicine. Information may be obtained from the Program Administrators in Life Sciences Building, Room 118 or Health Sciences Centre, Room 4143 who can refer students to the appropriate faculty counsellor.

MOL BIOL 2B03 CELL BIOLOGY
Basic treatment of cell structure and function, including transport and chemical signals; adaptation of structure and function in specialized cells. Three lectures, one lab (three hours), one tutorial; one term.
Prerequisite: BIOLOGY 1A03, 1AA3, CHEM 1AA3 and registration in Honours Molecular Biology
Antirequisite: BIOLOGY 2B03, HTH SCI K03
This course is administered by the Department of Biology.

MOL BIOL 2L06 INQUIRY IN BIOCHEMICAL TECHNIQUES
An inquiry approach to learning about current techniques in biochemistry research. Students will work in small groups in labs and workshops, with a focus on how to search the primary literature, prepare and deliver written and oral presentations.
One lecture (one hour), one lab, or workshop (four hours); two terms.
Prerequisite: Credit or registration in BIOCHEM 2B03, 2B05 and registration in Honours Molecular Biology
Cross-list: BIOCHEM 2L05
Antirequisite: BIOCHEM 3L03
This course is administered by the Department of Biochemistry and Biomedical Sciences.

MOL BIOL 3A03 CURRENT TOPICS IN MOLECULAR BIOLOGY
A review of current literature in molecular biology. A combination of lectures and student presentations on selected topics.
One lecture; one tutorial (two hours); one term.
Prerequisite: Registration in Honours Molecular Biology

MOL BIOL 3103 INDEPENDENT RESEARCH PROJECT
Students will conduct an independent research study in a faculty member’s laboratory.
8-10 hours per week (scheduling to be arranged by supervisor); one term.
Prerequisite: Registration in Honours Molecular Biology. Permission of the department is required. Application for permission must be received by March 1st of the academic year prior to registration. Students are expected to have a C.A. of at least 9.0. For further information, please refer to http://www.science.mcmaster.ca/biology/biology_undergraduate_CourseOfferings.html.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
This course is administered by the Department of Biochemistry and Biomedical Sciences.
**MOL BIOL 3V03 TECHNIQUES IN MOLECULAR GENETICS**
A laboratory course involving basic experiments in Molecular Genetics. One lecture, two labs (three hours each); one term
Prerequisite: Credit or registration in BIOLOGY 3D03 and registration in Level III or IV of Honours Molecular Biology
Antirequisite: BIOCHEM 3R03, BIOLOGY 3V03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
This course is administered by the Department of Biology.

**MOL BIOL 4A03 COMMUNICATIONS IN MOLECULAR BIOLOGY**
How to structure and defend a research proposal. How to analyze and present data and write it as a contribution to the primary scientific literature
Two tutorials; two terms
Prerequisite: Registration in Level IV Honours Molecular Biology

**MOL BIOL 4H03 MOLECULAR BIOLOGY OF CANCER**
Cancer at the cellular and molecular level. Topics include: properties of cancer cells, activation of proto-oncogenes, function of oncoproteins, transgenic mouse models, and tumour viruses, tumour suppressor genes.
Two lectures; one tutorial; one term
Prerequisite: One of BIOCHEM 3D03, 3G03, BIOLOGY 3H03, 3H13; and registration in Level III or above of any Honours program
This course is administered by the Department of Biochemistry and Biomedical Sciences.

**MOL BIOL 4J03 BIOCHEMICAL IMMUNOLOGY**
This advanced course applies small group-based learning to immunological problems. Topics concern development of immunity, resistance to infection and immunity in health and disease.
One session (two hours), one tutorial; one term
Prerequisite: Either BIOLOGY 2B03 or HTH SCI 2K03 and either BIOLOGY 2C03 or HTH SCI 2D03, and either BIOLOGY 3X03 or HTH SCI 3C03 and HTH SCI 4J13; or permission of the instructor
Cross-list: BIOCHEM 4J03, HTH SCI 4J03
This course is administered by the Bachelor of Health Sciences (Honours) Program.

**MOL BIOL 4R09 SENIOR THESIS**
A thesis based on a research project in molecular biology supervised or co-supervised by a member of the Department of Biology or the Department of Biochemistry and Biomedical Sciences.
Prerequisite: Registration in Level IV Honours Molecular Biology and permission of the Course Coordinator. Application for permission should be made through the Department of Biology, Life Sciences Building, Room 118 by the end of March in Level III. Normally, a CA of at least 8.5 is required.
Antirequisite: BIOCHEM 4L03, 4P03, BIOLOGY 4C09, 4F06, 4F3, 4GG9, 4H03, HTH SCI 3H03, 4A09, 4B06
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**MUSIC**

WEB ADDRESS: http://www.humanities.mcmaster.ca/~sota/
Togo Salmon Hall, Room 414
Ext. 27671

Courses and programs in Music are administered within the School of the Arts in the Faculty of Humanities.

Courses

**MUSIC 1A03 INTRODUCTION TO THE HISTORY OF MUSIC I**
An introductory survey of Western music, from Gregorian chant to the time of Bach and Handel. Emphasis is on important composers and their works in relation to their society and culture. No previous knowledge of music required.
Three lectures; one term
Not open to students registered in any Music program.

**MUSIC 1AA3 INTRODUCTION TO THE HISTORY OF MUSIC II**
An introductory survey of Western music, from the time of Mozart to the present. Composers studied include Beethoven, Schubert, Chopin, Verdi, Wagner, Debussy, and Stravinsky. No previous knowledge of music required.
Three lectures; one term
Not open to students registered in any Music program.

**MUSIC 1CC3 HARMONY**
The analysis and writing of functional harmony. Includes study of music by J.S. Bach and others.
Two lectures, one term; one lecture, term two; two terms
Prerequisite: Registration in a Music program; or a grade of at least B- in MUSIC 1E06; or qualifying tests

**MUSIC 1D03 AURAL SKILLS**
Sight-singing and dictation
Two lectures, one lab; two terms
Prerequisite: Registration in a Music program, or qualifying tests

**MUSIC 1E06 SOLO PERFORMANCE**
Intensive study of the technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone, or guitar.
12 one-hour meetings per term; two terms
Prerequisite: Registration in a Music program.
Antirequisite: MUSIC 1E66

**MUSIC 1E66 SOLO PERFORMANCE**
Intensive study of the technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone or guitar.
12 one-hour meetings per term; two terms
Prerequisite: Successful audition at a minimum level of Honours Grade 8 RCM or equivalent and permission of the School of the Arts
Antirequisite: MUSIC 1E06
Lesson fees are charged to students taking MUSIC 1E66. Lesson fees must be paid by September 1.
Not open to students in any Music Program.

**MUSIC 1G03 ENSEMBLE PERFORMANCE**
One of the McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band or McMaster Vocal Ensemble.
Prerequisite: Registration in a Music program

**MUSIC 1Y03 MUSIC AND CULTURE**
An introduction to the study of music as a cultural practice, including the exploration of issues such as gender in composition and performance, the relationship of music to spiritual practices, the body in performance, and the roles musicians have in society. Both contemporary and historical musical examples will be drawn from various cultures. Competence in reading music is required.
Two lectures; one tutorial; one term
Prerequisite: Registration in a Music program

**MUSIC 1YY3 HISTORY OF WESTERN MUSIC: BAROQUE AND CLASSICAL**
A survey of Baroque and classical music. Includes consideration of performance practices, influence of the arts and socio-political developments.
Three lectures; one term
Prerequisite: MUSIC 1Y03

**MUSIC 2A03 MUSIC OF THE WORLD'S CULTURES**
A survey of music traditions of non-European cultures, e.g., far Eastern, Indian, African.
Three lectures; one term
Prerequisite: Registration in Level II or above
Cross-list: CMST 2D03
Offered in alternate years.

**MUSIC 2C03 HARMONY**
A continuation of MUSIC 1C03. Chromatic harmony and the completed major-minor system.
One lecture, term one; two lectures, term two
Prerequisite: MUSIC 1C03

**MUSIC 2D03 KEYBOARD HARMONY**
Keyboard Harmony.
Two lectures; two terms
Prerequisite: Registration in a Music program or qualifying tests

**MUSIC 2E06 SOLO PERFORMANCE**
A continuation of MUSIC 1E06.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 1E06; and registration in Level II of any program in Music
Antirequisite: MUSIC 2E66

**MUSIC 2EE6 SOLO PERFORMANCE**
A continuation of MUSIC 1EE6.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 1EE6
Antirequisite: MUSIC 2E06
Lesson fees are charged to students taking MUSIC 2EE6. Lesson fees must be paid by September 1.
Not open to students in any Music Program.
MUSIC 2F03  MUSIC FOR FILM AND TELEVISION
An examination of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television. Three lectures; one term Prerequisite: Registration in Level II or above Cross-list: CMST 2T03, THTR&FLM 2T03 Antirequisite: SADM 3A03

MUSIC 2G03  ENSEMBLE PERFORMANCE
One of the McMaster Chamber Orchestra, McMaster University Choir, Mcmaster Concert Band, McMaster Jazz Band or McMaster Vocal Ensemble. Prerequisite: MUSIC 1G03 and successful audition

MUSIC 2H03  ANALYSIS
The traditional forms of Western art music as found in works by composers such as Bech, Mozart, Beethoven, and Brahms. Three lectures; one term Prerequisite: MUSIC 1C03

MUSIC 2I03  POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: PRE-WORLD WAR II
Two centuries of popular music, its social meanings, and media and technology interactions, emphasizing the early twentieth century. Topics include minstrelsy, early blues, and musical theatre. Three lectures; one term Prerequisite: Registration in Level II or above Cross-list: CMST 2RR3 Antirequisite: MUSIC 2A03

MUSIC 2J03  POPULAR MUSIC IN NORTH AMERICA AND THE UNITED KINGDOM: POST-WORLD WAR II
Popular music, its social meanings, and media and technology interactions, from rock-and-roll to r&b. Topics include rhythm and blues (Chuck Berry), pop (Madonna), metal (Led Zeppelin). Three lectures; one term Prerequisite: Registration in Level II or above Cross-list: CMST 2R03 Antirequisite: MUSIC 2A03

MUSIC 2Y03  HISTORY OF WESTERN MUSIC: ROMANTIC TO THE PRESENT
A survey of 19th, 20th and 21st century music. Includes consideration of performance practices, influences of the other arts and socio-political developments. Three lectures; one term Prerequisite: MUSIC 1Y03 Antirequisite: MUSIC 2B03, 2B03

MUSIC 2YY3  HISTORY OF WESTERN MUSIC: MEDIEVAL AND RENAISSANCE
A survey of medieval and Renaissance music. Includes consideration of performance practices, influences of the other arts and socio-political developments. Three lectures; one term Prerequisite: MUSIC 1Y03

MUSIC 2Z03  INTRODUCTION TO MIDI AND COMPUTER MUSIC
Basic electroacoustic theory; introduction to techniques of digital music composition, emphasizing MIDI applications; computer music notation; aesthetics of music composition. Students will be expected to produce at least one original work. Prior experience with computers and/or music composition is strongly encouraged, though not required. Independent studio work will be required. Two lectures, one tutorial; one term Prerequisite: Registration in the Combined Honours in Multimedia Program or registration in Level II or above of a Music program Cross-list: MMEDIA 2G03 This course is administered by the Department of Communication Studies and Multimedia.

MUSIC 3A03  ELEMENTARY MUSIC EDUCATION
A survey of elementary music education methods such as those of Kodály, Orff and Suzuki. Three lectures; one term Prerequisite: MUSIC 1A03 and 1AA3; or 18 units of Music

MUSIC 3C03  MODAL COUNTERPOINT
The writing and analysis of modal counterpoint in the style of the late renaissance. Includes study of music by composers such as Palestrina and Lasso. Seminar (two hours); one term Prerequisite: MUSIC 2C03 and registration in Honours Music Antirequisite: MUSIC 2C03 Offered in alternate years.

MUSIC 3CT3  TONAL COUNTERPOINT
The writing and analysis of tonal counterpoint in Baroque style. Includes study of music by major composers of the 17th and early 18th centuries. Seminar (two hours); one term Prerequisite: MUSIC 2C03 and registration in Honours Music Antirequisite: MUSIC 3C03 Offered in alternate years.

MUSIC 3E03  SOLO PERFORMANCE
The technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone or guitar. 12 one-hour meetings; one term Prerequisite: MUSIC 2E06 and registration in a program in Music Antirequisite: MUSIC 3E03, 3E06, 3EE6 Lesson fees are charged to students taking MUSIC 3E03 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.

MUSIC 3E05  SOLO PERFORMANCE
A continuation of MUSIC 2E05. 12 one-hour meetings per term; two terms Prerequisite: MUSIC 2E05 and registration in a program in Music Antirequisite: MUSIC 3E03, 3E06 Lesson fees are charged to students taking MUSIC 3E05 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2. Not open to students in any Music Program.

MUSIC 3E06  SOLO PERFORMANCE
A continuation of MUSIC 2E06. 12 one-hour meetings per term; two terms Prerequisite: MUSIC 2E05 and registration in a program in Music Antirequisite: MUSIC 3E03, 3E06 Lesson fees are charged to students taking MUSIC 3E06. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2. Not open to students in any Music Program.

MUSIC 3E08  SOLO PERFORMANCE
The technique and repertoire of any orchestral instrument, piano, organ, harpsichord, voice, recorder, saxophone or guitar. 12 one-hour meetings; one term Prerequisite: MUSIC 2E08 Antirequisite: MUSIC 3E03, 3E06 Lesson fees are charged to students taking MUSIC 3E08. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2. Not open to students in any Music Program.

MUSIC 3E09  SOLO PERFORMANCE
A continuation of MUSIC 2E09. 12 one-hour meetings per term; two terms Prerequisite: MUSIC 2E09 Antirequisite: MUSIC 3E03, 3E06 Lesson fees are charged to students taking MUSIC 3E09. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2. Not open to students in any Music Program.

MUSIC 3G03  ENSEMBLE PERFORMANCE
One of the McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band or McMaster Vocal Ensemble. Prerequisite: MUSIC 2G03 and successful audition

MUSIC 3H03  ANALYSIS
Techniques of analysis applied to selected works of the 20th century. Seminar (two hours); one term Prerequisite: MUSIC 2C03, 2G03 and registration in Honours Music Offered in alternate years.

MUSIC 3J03  ORCHESTRA AND BAND
A study of the orchestral/band instruments; scoring of music for various ensembles. Two lectures; two terms Prerequisite: MUSIC 2C03, 2H03 and registration in a Music program Offered in alternate years.

MUSIC 3K03  BRASS METHODS
Basic techniques of playing brass instruments. Brass literature for various educational levels. The instruments studied differ from those studied in MUSIC 4K03. Two lectures; one lab; one term Prerequisite: Registration in Honours Music Alternates with MUSIC 4K03.

MUSIC 3L03  WOODWIND METHODS
Basic techniques of playing windwood instruments. Woodwind literature for various educational levels. The instruments studied differ from those studied in MUSIC 4L03. Two lectures; one lab; one term Prerequisite: Registration in Honours Music Alternates with MUSIC 4L03.
MUSIC 3M03 STRING METHODS
Basic techniques of playing string instruments. String literature for various instrumental levels. The instruments studied differ from those studied in MUSIC 4M03.
Two lectures; two terms
Prerequisite: Registration in Honours Music
Alternates with MUSIC 4M03.

MUSIC 3N03 VOCAL METHODS
Basic techniques of singing; organization, conducting, and rehearsing a choir; choral literature for primary and junior levels.
Two lectures; one term
Prerequisite: Registration in Honours Music
Alternates with MUSIC 4N03.

MUSIC 3O03 CONDUCTING
Fundamental conducting techniques applied to works selected from the standard repertoire.
Three lectures; one term
Prerequisite: MUSIC 2CC3, 2H03 and registration in Honours Music

MUSIC 3P03 PERCUSSION METHODS
Basic techniques of playing percussion instruments. Percussion literature for various educational levels.
Two lectures; one term
Prerequisite: Registration in Honours Music
Alternates with MUSIC 4P03.

MUSIC 3S03 SPECIAL STUDIES IN CHAMBER MUSIC OR ACCOMPANYING
Advanced supervised studies in chamber music performance or vocal or instrumental accompanying.
Times to be arranged between the students and instructor; one term
Prerequisite: A grade of at least A- in MUSIC 2E06; and registration in Level III or IV of a Music program; and permission of the School of the Arts.
Students requesting this course must submit a written proposal to the School of the Arts by April 15. This course is primarily for students pursuing the Diploma in Music Performance.
Antirequisite: MUSIC 3S03
Fees are charged to students taking MUSIC 3S03. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.

MUSIC 3T03 CANADIAN MUSIC
A historical survey of music in Canada, in the context of social and political developments, from c. 1600 to the present.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Offered in alternate years.

MUSIC 3U03 JAZZ
An historical survey of jazz, focusing on selected performers and arrangers.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above

MUSIC 3V03 FOUNDATIONS OF MUSIC EDUCATION
A study of the philosophical, psychological and sociological foundations of music education, leading to the formation of a personal philosophy of music education.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of an Honours Music Program
Offered in alternate years.

MUSIC 3Y03 TOPICS IN MUSIC HISTORY: MUSIC FOR THE ORCHESTRA
A study of selected orchestral music in its historical, socio-political and artistic contexts. Possible topics include: the concerto, the symphonic poem, orchestral music, 1880-present.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level III or IV of an Honours Music Program
Alternates with MUSIC 3YV3.

MUSIC 3YV3 TOPICS IN MUSIC HISTORY: OPERA AND/OR MUSICAL THEATRE
A study of selected music for the stage in its historical, socio-political and artistic contexts. Possible topics include: Mozart's operas, Wagner's Ring, American musical theatre.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level III or IV of an Honours Music Program
Alternates with MUSIC 3YV3.

MUSIC 3Z03 ADVANCED MIDI AND DIGITAL AUDIO FOR MULTIMEDIA
The creation of digital music and audio. Students work individually and in teams to develop skills for multimedia audio production. Topics include: advanced MIDI, mixing, audio processing and frequency equalization.
Two lectures, one tutorial; one term
Prerequisite: MMEDIA 2G03 or MUSIC 2Z03
Cross-list: MMEDIA 3C03
This course is administered by the Department of Communication Studies and Multimedia.

MUSIC 4C03 TOPICS IN HARMONY AND COUNTERPOINT
Advanced studies in writing an analysis. Possible topics include: sonatas, sones, jazz arranging and scoring.
Seminar (two hours); one term
Prerequisite: MUSIC 2CC3 and registration in Honours Music
Offered in alternate years.

MUSIC 4E03 SOLO PERFORMANCE
A continuation of MUSIC 3E03 or 3E06.
12 one-hour meetings; one term
Prerequisite: MUSIC 3E03 or 3E06; and registration in a program in Music
Antirequisite: MUSIC 4E06, 4E09, 4E13
Lesson fees are charged to students taking MUSIC 4E03 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1 for Term 1 and by January 1 for Term 2.

MUSIC 4E06 SOLO PERFORMANCE
A continuation of MUSIC 3E03 or 3E06.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 3E03 or 3E06; and registration in a Music Program
Antirequisite: MUSIC 4E06, 4E09, 4E13
Lesson fees are charged to students taking MUSIC 4E06 if the course is not a specific requirement for their music degree program. Lesson fees must be paid by September 1.

MUSIC 4E09 SOLO PERFORMANCE, DIPLOMA
Advanced technique and repertoire of any approved instrument, leading to a final examination in a recital presentation of approximately forty minutes duration. Individual instruction; two terms
Prerequisite: MUSIC 3E06 or 3E09 with a grade of at least A-; and permission of the School of the Arts
Antirequisite: MUSIC 4E04, 4E06, 4E09, 4E13
Open only to students pursuing the Diploma in Music Performance. Students requesting this course must apply in writing to the School of the Arts in March. Fees are charged to students taking MUSIC 4E09. Lesson fees must be paid by September 1.

MUSIC 4E13 SOLO PERFORMANCE
A continuation of MUSIC 3E13 or 3E16.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 3E13 or 3E16
Antirequisite: MUSIC 4E03, 4E06, 4E13
Lesson fees are charged to students taking MUSIC 4E13. Lesson fees must be paid by September 1.

MUSIC 4E16 SOLO PERFORMANCE
A continuation of MUSIC 3E13 or 3E16.
12 one-hour meetings per term; two terms
Prerequisite: MUSIC 3E13 or 3E16
Antirequisite: MUSIC 4E03, 4E06, 4E13
Lesson fees are charged to students taking MUSIC 4E16. Lesson fees must be paid by September 1.
Not open to students in any Music Program.

MUSIC 4G03 ENSEMBLE PERFORMANCE
One of the McMaster Chamber Orchestra, McMaster University Choir, McMaster Concert Band, McMaster Jazz Band or McMaster Vocal Ensemble.
Prerequisite: MUSIC 3G03 and successful audition; or a grade of at least A- in MUSIC 3G06 and registration in the Diploma in Music Performance Program those students registered in the diploma program must, where possible, perform in this course in the same medium as they do in their other diploma courses.

MUSIC 4H03 TOPICS IN ANALYSIS
Advanced studies in analysis. Possible topics include: Schenkerian analysis, song cycles of Schubert, advanced set theory.
Seminar (two hours); one term
Prerequisite: MUSIC 2CC3, 2H03 and registration in Honours Music
Offered in alternate years.
MUSIC 4K03  
**BRASS METHODS**  
A study of the basic techniques of playing brass instruments. Brass literature for various educational levels. The instruments studied differ from those studied in MUSIC 3K03.  
Two lectures; one lab; one term  
Prerequisite: Registration in Honours Music  
Alternates with MUSIC 3K03.

MUSIC 4L03  
**WOODWIND METHODS**  
A study of the basic techniques of playing woodwind instruments. Woodwind literature for various educational levels. The instruments studied differ from those studied in MUSIC 3L03.  
Two lectures; one lab; one term  
Prerequisite: Registration in Honours Music  
Alternates with MUSIC 3L03.

MUSIC 4M03  
**STRING METHODS**  
A study of the basic techniques of playing string instruments. String literature for various educational levels. The instruments studied differ from those studied in MUSIC 3M03.  
Two lectures; two terms  
Prerequisite: Registration in Honours Music  
Alternates with MUSIC 3M03.

MUSIC 4N03  
**VOCAL METHODS**  
Basic techniques of singing; organization, conducting, and rehearsing a choir; choral literature for intermediate and senior levels.  
Two lectures; one term  
Prerequisite: Registration in Honours Music  
Alternates with MUSIC 3N03.

MUSIC 40C3  
**ADVANCED CONDUCTING: CHORAL**  
Rehearsal and conducting techniques, including warm-up exercises, tone, intonation, balance, attack, sustain, cueing, repertoire, score reading, and score preparation.  
Three lectures; one term  
Prerequisite: MUSIC 3003 and registration in Honours Music  
Alternates with MUSIC 40C3.

MUSIC 40L3  
**ADVANCED CONDUCTING: INSTRUMENTAL**  
A continuation of MUSIC 3003. Refinement and development of conducting techniques. Exploration of in-depth score preparation, rehearsal techniques, odd and shifting meters, subdivision.  
Three lectures; one term  
Prerequisite: MUSIC 3003 and registration in Honours Music  
Alternates with MUSIC 40L3.

MUSIC 4P03  
**PERCUSSION METHODS**  
A continuation of MUSIC 3P03.  
Two lectures; one term  
Prerequisite: Registration in Honours Music  
Alternates with MUSIC 3P03.

MUSIC 4Q03  
**PIANO LITERATURE AND PEDAGOGY**  
Study of piano repertoire and teaching methods for various age groups.  
Three lectures; one term  
Prerequisite: Registration as a piano major in Level III or IV of an Honours Music program  
Offered in alternate years.

MUSIC 4R03  
** ISSUES AND METHODS IN CURRENT MUSICOLOGY**  
An exploration of historical, analytical and critical methods of research in music, including models of analysis derived from cultural studies, gender studies, literary theory, etc.  
Seminar (two hours); one term  
Prerequisite: Registration in Level III or IV of an Honours Music program  
Antirequisite: MUSIC 3R03, 4R03  
Offered in alternate years.

MUSIC 4S03  
**SPECIAL STUDIES**  
Advanced supervised study in any area offered and approved by the School of the Arts.  
Times to be arranged between the student and instructor; one term  
Prerequisite: Registration in Level IV of an Honours Music program and permission of the School of the Arts. Students requesting this course must submit a written proposal to the School of the Arts by April 15th.
Assistant Professors in Level Wendy Jennifer Jeannette Janet Yvonne Charlotte Noesgaard1B.N. Susan ~khelle BU~~~B.SC.. Jennifer Ola Catherine Barbara Car~i01B.Sc.N. d.53c.N. (Toronto)1 M.Sc-(T.) Kathy Eileen Grace1M.H.Sc. (McMaster)t M.Sc. Ph.D. (University of Toronto), R.N. Check. All costs associated with this procedure are the

Gertrude Dyanne Gladys Helen Patricia Marilyn Parsons1B.N.S~. Jennifer Lunyk-Child1B.Sc.N. (McMaster), M.Sc.N. (McMaster), R.N. NURSING courses with a grade community experience. Normally, Level 1, Level II, III, and IV Nursing courses are available only to students registered in the B.Sc.N. Program. All students are required to have a satisfactory Police Record Check completed annually. Students may be required to produce documentation of this at some clinical placements. Students may elect to use the services of the Ontario Education Services Corporation (OESC) website (www.oesc-case.org) to request a Police Record Check. All costs associated with this procedure are the responsibility of the student. Registered students who have been convicted of an offense under the criminal code for which they have not been pardoned may be denied the opportunity to enter clinical placement.

Students are responsible for arranging their own travel to and from learning settings external to the University and for covering any costs incurred. All students who enrol in the B.Sc.N. program are expected to travel to any learning setting in the community and the surrounding area, including Hamilton, Peel, Brant, Halton-Norfolk, Niagara and Wellington regions (McMaster and Mohawk); and Kitchener-Waterloo and surrounding area, including Wellington, Brant and Halton regions (Conestoga).

Students in any stream who register for a clinical lab course in Level III or above must also submit a placement request to the Placement Coordinator. Students who fail to meet the published deadline but who register for the course at least two months prior to the date it is to commence will be assigned a placement setting without consideration of their preferences. Students who do not register two months in advance and who fail to meet the submission deadline will normally be required to defer their placement until the next term in which the course is offered.

The final assignment of learning settings for any course is constrained by the availability of the requested setting and faculty resources. Students may therefore be required to complete the practicum component of a course in a learning setting that is not of their choosing.

For Post-Diploma Streams (B) and (E), students are required to attain a Cumulative Average of 7.5 upon completion of Level III (45 units) and a minimum grade of B- in NURSING 3WV.

Specialized/atypical placements in Level IV are only available to students with a Cumulative Average of 7.0 in the following Health Science courses: HTH SCI 1A3, 1B3, 1H06 (or 1H03 and 1H33), 2H03, 2H3, NURSING 3U02.

The Nursing Leadership/Management courses are open only to students registered in the Nursing Leadership/Management program, which was previously administered and is currently endorsed by the Canadian Nurses Association. Students in the B.Sc.N. (B) Stream may apply to the coordinator of the Nursing Leadership/Management program for permission to take these courses.

NURSING Courses

NURSING 1A00 WHMIS, HEALTH AND SAFETY

Basic safety course including the safety guidelines, acceptable safety conduct and positive safety attitudes and practice in laboratories and clinical practice settings and Workplace Hazardous Materials Information System (WHMIS). Evaluation: One multiple choice questions examination graded pass or fail; students who fail will be required to attend the course again during the same academic term.

One session (two hours)

Prerequisite: Registration in the B.Sc.N. Program or the Ontario Primary Health Care Nurse Practitioner Certificate program.

Antirequisite: ENGINEER 1A00, ENG TECH 1A00, SCIENCE 1A00

NURSING 1F04 INTRODUCTION TO NURSING AND HEALTH I

An introduction to definitions of nursing and health. Emphasis is on the relevance of context and on caring. Nursing process, beginning level skills in assessment, including physical assessment, and communication are stressed. A clinical practice component includes laboratory and community experience.

Two and one half hours (lecture/prob/emp-based tutorials); four hours (clinical lab); one term

Prerequisite: Registration in Level I of the B.Sc.N. (A) or (D) Stream
A continuation of NURSING 1F04. An introduction to reflective practice. Concepts and theories related to specific priority health issues are studied. There is continued development of skills in health assessment and an introduction to health education. A clinical practice component includes laboratory and community experience.

Two and one half hours (lecture/problem-based tutorials), four hours (clinical lab); one term
Prerequisite: NURSING 1F04

NURSING 1H03 PATIENT AND FAMILY PERSPECTIVE OF LIVING WITH THE LABEL "DISABLED"

Theoretical, attitudinal and practical knowledge relevant to people labeled as "disabled" is explored. Students explore health care provider attitudes and values and how these impact individuals and families. Nursing practice will be examined using a patient centered approach.

Three hours (lecture/tutorials), community-based experience; one term
Prerequisite: Registration in Nursing I

NURSING 2A04 TRANSITION TO BACCALAUREATE NURSING I

Role differences between R.P.N. and B.S.C.N. are explored. Problem-based, small group learning is introduced. Biological, physical, psychological, social science and nursing theories/concepts are integrated and applied to health care problems and clinical practice.

Three hours (lecture/problem-based tutorials), three hours (clinical), self study; one term
Prerequisite: NURSING 1A00 and registration in Level II of the B.S.C.N. (E) Stream

NURSING 2A04 TRANSITION TO BACCALAUREATE NURSING II

A continuation of NURSING 2A04. Theories/concepts from a variety of disciplines are integrated and applied to complex health care problems and clinical practice.

Three hours (tutorial/lecture, twice weekly); one term
Prerequisite: Registration in Level II of the B.S.C.N. (F) Stream

NURSING 2J04 INTRODUCTION TO NURSING PRACTICE

Nursing concepts basic to health and illness are examined across the continuum of individual and family growth and development. Planned and guided experiences are provided in the clinical laboratory and acute care institutions. This course is evaluated on a Pass/Fail basis.

12 hours (clinical lab); one term
Prerequisite: NURSING 2J06

NURSING 2L03 GUIDED NURSING PRACTICE I

Nursing concepts basic to health and illness are examined across the continuum of individual and family growth and development. Planned and guided experiences are provided in acute care institutions, including adult medical and surgical settings.

This course is evaluated on a Pass/Fail basis.

Nine hours (clinical lab); one term
Prerequisite: NURSING 1A00, 1F04, 1G04

Normally to be taken concurrently with NURSING 2M03

NURSING 2M03 NURSING CONCEPTS IN HEALTH AND ILLNESS I

Integration of nursing, biological, psychological and social sciences theory is developed through work in problem-based tutorials, in which students apply concepts related to nursing, teaching-learning and group processes to a variety of patient situations.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 1F04, 1G04

Normally to be taken concurrently with NURSING 2L03

NURSING 2N03 NURSING CONCEPTS IN HEALTH AND ILLNESS II

A continuation of NURSING 2M03. Integration of nursing, biological, psychological and social sciences theory in problem-based tutorials.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 2M03

Normally to be taken concurrently with NURSING 2P03.

NURSING 2P03 GUIDED NURSING PRACTICE II

A continuation of NURSING 2L03. Planned and guided clinical practice in institutional settings.

This course is evaluated on a Pass/Fail basis.

Nine hours (clinical lab); one term
Prerequisite: NURSING 2L03

Normally to be taken concurrently with NURSING 2N03.

NURSING 2Q03 POPULATION HEALTH

An introduction to the major factors that determine the health of populations. Approaches to the assessment of the health status of communities will be considered. This course provides experience in conducting a community assessment.

Three hours (clinical lab) and two hours (tutorial and self-study); one term
Prerequisite: NURSING 1G04 or registration in Level II B.Sc.N. (E) Stream
Antirequisite: NURSING 2Q02

NURSING 3L03 CLIENT HEALTH ASSESSMENT

This course focuses on knowledge and skills related to the assessment of the client in a community-based health care setting. History-taking and physical assessment skills are developed.

Three hours (problem-based tutorials); one term
Prerequisite: Registration in Level III or IV of the B.Sc.N. (B) or (E) Stream or permission of the instructor
Antirequisite: NURSING 3A03

NURSING 3M03 COMMUNICATION SKILLS FOR INDIVIDUALS, FAMILIES AND COMMUNITIES

Communication skills relevant to the complex nursing care of individuals, families and communities are developed through small-group tutorials and use of standardized patients.

Three hours (problem-based tutorials); one term
Prerequisite: Registration in Level I or II of the B.Sc.N. (B) Stream
Antirequisite: NURSING 3H03

Not open to students with credit in NURSING 3H03.

NURSING 3N03 INTRODUCTION TO NURSING CONCEPTS AND THEORIES IN HEALTH AND ILLNESS

Biological, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning. Principles and strategies for lifelong learning are introduced. Three hours (lecture/problem-based tutorials); one term
Prerequisite: Registration in Level III of any stream of the B.S.C.N. program
Antirequisite: NURSING 3C03, 3E03, 3P03, 3S03

NURSING 3S03 NURSING CONCEPTS IN HEALTH AND ILLNESS III

Biological, physical, psychological, social sciences, and nursing theory are integrated and applied to health care situations through problem-based learning.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: Registration in Level II of any stream of the B.S.C.N. program
Antirequisite: NURSING 3C03, 3E03, 3N03, 3P03

Normally to be taken concurrently with NURSING 3X04 (for (A), (D) and (E) Stream students).

NURSING 3T03 NURSING CONCEPTS IN HEALTH AND ILLNESS IV

A continuation of NURSING 3S03. A problem-based course in which students integrate theories from biological, physical, psychological, social and nursing sciences and apply them to health care situations.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: NURSING 3N03, 3S03
Antirequisite: NURSING 3D03, 3F03, 3Q03

Normally to be taken concurrently with NURSING 3Y04 (for (A) and (D) Stream students).

NURSING 3U02 INTEGRATIVE NURSING PRACTICE SEMINAR

This course is an in-depth analysis of the scientific basis of nursing practice. Selected scientific mechanisms are studied and applied to nursing practice. Two hours (lecture/student presentations); one term
Prerequisite: Registration in Level III of the B.Sc.N. (A) or (D) Stream
Normally to be taken concurrently with NURSING 3X04 or 3Y04.

NURSING 3V03 COMMUNITY HEALTH

Introduction to assessment of the health status of communities within a Primary Health Care framework. Models of community development and community assessment, health promotion and health education are critiqued and applied to clinical scenarios.

Three hours (lecture/problem-based tutorials); one term
Prerequisite: HTH SCI 3303 and registration in B.Sc.N. (B) and (F) Streams
Antirequisite: NURSING 3M05, 3V02

Normally to be taken concurrently with NURSING 3T03.
NURSING 3X04 GUIDED NURSING PRACTICE III
Planned and guided clinical practice in a variety of institutional and community settings emphasizing that nursing is contextual and relational. Nursing practice roles and selected theories/models are tested with individuals and groups. Emphasis is given to formulating nursing interventions. This course is evaluated on a Pass/Fail basis.
Twelve hours (clinical lab); one term
Prerequisite: NURSING 2A44, 2P03
Normally to be taken concurrently with NURSING 3S03.

NURSING 3Y04 GUIDED NURSING PRACTICE IV
A continuation of NURSING 3X04 with emphasis on integration of scientific mechanisms.
Twelve hours (clinical lab); one term
Prerequisite: NURSING 3X04
Normally to be taken concurrently with NURSING 3T03.

NURSING 4B06 INTRODUCTION TO NURSING LEADERSHIP/MANAGEMENT
Introduction to theories and methods of leadership and management integrating the nursing and management disciplines. Given in both distance education and problem-based tutorial formats. A document of recognition is granted on course completion. Enrollment in tutorial format is limited.
Four hours (problem-based tutorial or equivalent); six hours (independent study at a clinical site); one term
Prerequisite: Registered Nurse with a minimum of one year clinical experience or permission of the instructor.
Antirequisite: HTH SCI 4E06

NURSING 4C01 NURSING BUDGETING
Introduction to sources of health care funding in Canada and the principles of decentralized financial management. Given in distance education and problem-based tutorial formats.
This course is evaluated on a Pass/Fail basis.
One hour (lecture or equivalent); one term
Prerequisite: Registered Nurse or permission of the instructor

NURSING 4D06 ADVANCED LEADERSHIP AND MANAGEMENT IN HEALTH CARE ORGANIZATIONS
This advanced course builds upon NURSING 4B06 content. It integrates theories and research in leadership and management to enhance the health care provider's knowledge of key issues in today's workplace. Offered in tutorial or distance format.
Four hours (tutorial or equivalent); six hours (independent study in an organization); one term
Prerequisite: NURSING 4B06
Antirequisite: HTH SCI 4D06

NURSING 4FF3 INTEGRATIVE LEADERSHIP PROJECT
Students integrate learning and demonstrate a leadership role in addressing a real health care issue. Students work with both a tutor and a health care leader to address a mutually agreed upon leadership issue in the workplace.
Three hours (seminar and clinical lab); one term
Prerequisite: NURSING 4B06, 4D06, 4I03, 4HH3, 4203
Antirequisite: NURSING 4FF3
Normally to be taken concurrently with NURSING 4K07 or NURSING 4T06.

NURSING 4G03 SELECTED TOPICS IN NURSING
Topics of contemporary interest in nursing. Emphasis may be upon theory, research or clinical application. Consult the School regarding the topics to be examined.
Three hours (problem-based tutorial or equivalent); one term
Prerequisite: Permission of the instructor

NURSING 4H03 ISSUES IN INTERNATIONAL AND INTERCULTURAL HEALTH
An introduction to health issues in a rural Canadian and international context, including theories of development; political economy; medical and social anthropology; and intercultural health care practice.
Three hours (lecture/problem-based tutorials); one term
Prerequisite: HTH SCI 3803; and registration in Level III or IV of the B.Sc.N. Program; and permission of the instructor.
Antirequisite: COLLAB 4H03, HTH SCI 4H03

NURSING 4HH3 QUALITY MANAGEMENT IN HEALTH CARE ORGANIZATIONS
This course focuses on the role of leadership in quality management in health care organizations. Concepts, theories and best practices are utilized to examine issues in the health care work environments. Concepts studied include patient safety, safety culture, benchmarks and scorecards, program evaluation and risk/utilization management.
Three hours (lecture/miniseminar); one term
Prerequisite: Registered Nurse and permission of the instructor
Antirequisite: HTH SCI 4H3

NURSING 4I03 LEADING EFFECTIVE TEAMS IN HEALTH CARE ORGANIZATIONS
This course introduces health care providers to the concepts and dynamics of teams within health care organizations. Theories and concepts related to leadership, communication and health systems are applied in the current work environment. Distance education and tutorial formats.
Three hours (problem-based tutorial or equivalent); one term
Prerequisite: Registered Nurse and permission of the instructor
Antirequisite: HTH SCI 4I03

NURSING 4J07 GUIDED NURSING PRACTICE V
This course focuses on the application of theory and concepts to clinical practice, including the introduction to the leadership role in patient care. Students are individually placed in a variety of health-care settings.
This course is evaluated on a Pass/Fail basis.
Twenty-four hours (clinical lab, including tutorials); one term
Prerequisite: NURSING 3X04 or 3Y04
Normally to be taken concurrently with NURSING 4P04.

NURSING 4K07 GUIDED NURSING PRACTICE VI
A continuation of Nursing 4J07.
This course is evaluated on a Pass/Fail basis.
Twenty-four hours (clinical lab, including tutorials); one term
Prerequisite: NURSING 4J07
Normally to be taken concurrently with NURSING 4Q04.

NURSING 4P04 ADVANCED NURSING CONCEPTS I
Students focus on the integration and application of scientific and humanistic theories and concepts to the exploration and suggested resolution of client/patient case scenarios.
Three and one half hours (student-facilitated tutorials), resource lectures; one term.
Prerequisite: Registration in Level IV of any stream of the B.Sc.N. Program
Antirequisite: NURSING 4E03
Normally to be taken concurrently with NURSING 4J07, 4S06 or 4T06.

NURSING 4Q04 ADVANCED NURSING CONCEPTS II
A continuation of NURSING 4P04. Students focus on the integration and application of relevant concepts and theories to the exploration of professional issues in nursing and the health care system.
Three and one half hours (student-facilitated tutorials), resource lectures; one term.
Prerequisite: NURSING 4P04
Antirequisite: NURSING 4F03
Normally to be taken concurrently with NURSING 4K07, 4S06 or 4T06.

NURSING 4S06 GUIDED NURSING PRACTICE I - COMMUNITY-BASED CARE
An applied nursing practice experience in a community-based health care setting with emphasis on skill development in health promotion, health education and community assessment.
This course is evaluated on a Pass/Fail basis.
Twelve hours (clinical lab), two hours (tutorials); one term
Prerequisite: NURSING 1A00, 3V03 and registration in Level IV of the B.Sc.N. (B) Stream
Normally to be taken concurrently with either NURSING 4P04 or 4Q04.

NURSING 4T06 GUIDED NURSING PRACTICE II
An applied nursing practice course which emphasizes integration of theory and development of independent decision-making capacity in a selected area of clinical practice.
This course is evaluated on a Pass/Fail basis.
Twelve hours (clinical lab), two hours (tutorials); one term
Prerequisite: NURSING 1A00 and registration in Level IV of the B.Sc.N. (B) Stream
Not open to students with credit in NURSING 4L06, 4M06 or 4N06.
Normally to be taken concurrently with either NURSING 4P04 or 4Q04.

NURSING 4Z03 NURSING CONFLICT MANAGEMENT IN HEALTH CARE ORGANIZATIONS
An introduction to the types and processes of conflict in health care organizations. Exploration and application of theories and principles of conflict and negotiations to situations in the health care environment. Offered in both tutorial and distance format.
Three hours (tutorial); one term
Prerequisite: A minimum of one year clinical work experience in a health care profession or permission of the instructor
Antirequisite: HTH SCI 4Z03.
NURSE PRACTITIONER CERTIFICATE ...  

Notes:  
1. The following courses are available to those students currently completing the Nurse Practitioner Certificate program.  
2. Distance education modalities are employed in all courses in the Nurse Practitioner Certificate program. Tutorial sessions are held on-site at the University. Field experience is required for several courses. Students must attend McMaster for the clinical laboratory components of the program.

Courses  
NURSPRAC 4AAS ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS I  
This course focuses on the development of clinical decision making and advanced health assessment knowledge and skills in providing primary health care for the adult client. Three hours (tutorial), three hours (clinical lab); one term Prerequisite: NURSPRAC 40A0, and credit or registration in NURSPRAC 4P03, and registration in the Primary Health Care Nurse Practitioner Certificate Program Antirequisite: NURSPRAC 4A05, 4A10  
NURSPRAC 4AB5 ADVANCED HEALTH ASSESSMENT AND DIAGNOSIS II  
A continuation of NURSPRAC 4AAS. This course applies frameworks, concepts and methods of health assessment and clinical decision making to specific populations across the lifespan, families and communities. Three hours (tutorial), three hours (clinical lab); one term Prerequisite: NURSPRAC 4AAS, and credit or registration in NURSPRAC 4P03 Antirequisite: NURSPRAC 4A05, 4A10  
NURSPRAC 4C13 NURSE PRACTITIONER INTEGRATIVE PRACTICUM  
An intensive field study with a focus on assessment, diagnosis and management of the care of clients. Emphasis is on synthesizing advanced knowledge and applying evidence-based health care to clinical practice. 29 hours (clinical lab; six hours tutorial); one term Prerequisite: NURSPRAC 4A10, (or NURSPRAC 4A5 and 4AB5), 4P03, 4R03, 4TB5, (or 4TA5 and 4TB5) Antirequisite: NURSPRAC 4C10, 4S03  
NURSPRAC 4P03 PATHOPHYSIOLOGY FOR NURSE PRACTITIONERS  
This course uses a systems approach to examine concepts in pathophysiology as a basis for advanced nursing practice in primary health care. The course will provide a comprehensive overview of etiology, pathogenesis and clinical manifestation of diseases in adults and children found in primary care. Three hours (tutorial); two terms Prerequisite: Registration in the Primary Health Care Nurse Practitioner Certificate Program  
NURSPRAC 4R03 NURSE PRACTITIONER ROLES AND RESPONSIBILITIES  
This course examines and analyzes the political, economic, social, ethical and legal issues related to the role and scope of practice of Nurse Practitioners. Three hours (tutorial); two terms Prerequisite: Registration in the Primary Health Care Nurse Practitioner Certificate Program  
NURSPRAC 4TA5 THERAPEUTICS IN PRIMARY HEALTH CARE I  
Concepts integral to pharmacotherapy, advanced counselling and complementary therapies related to episodic conditions across the lifespan are introduced. The therapeutic care plan approach is emphasized. Three hours (tutorial), three hours (clinical lab); one term Prerequisite: NURSPRAC 40A0; and credit or registration in NURSPRAC 4AAS, 4P03; and registration in the Primary Health Care Nurse Practitioner Certificate Program Antirequisite: NURSPRAC 4T05, 4T10, 4T75  
NURSPRAC 4TB5 THERAPEUTICS IN PRIMARY HEALTH CARE II  
A continuation of NURSPRAC 4TA5. This course applies the frameworks and concepts of pharmacotherapy, advanced counselling and complementary therapies to clients with chronic conditions and to specific populations. Three hours (tutorial) (clinical lab); one term Prerequisite: NURSPRAC 4TA5 Antirequisite: NURSPRAC 4T05, 4T10, 4T75  

NURSING CONSORTIUM (D) STREAM ...  

Note:  
The following courses are open only to those students at the Mohawk College or Conestoga College sites who are registered in the McMaster/Mohawk/Conestoga Collaborative B.Sc.N program with the exception of COLLAB 2F03 (Medical Informatics) and COLLAB 2K03 (Introduction to Health Informatics) which are also open to students registered in the B.Sc.N. (A), (E) and (F) Streams.

Courses  
COLLAB 1A03 INTRODUCTION TO PSYCHOLOGY  
An introduction to the basic principles of scientific psychology related to the understanding of "normal" human behaviour. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site) Antirequisite: COLLAB 1C03, NURSECON 1C03 Not open to students with credit or registration in PSYCH 1A03  
COLLAB 1B03 DEVELOPMENTAL PSYCHOLOGY  
The study of human psychological development from the pre-natal period to old age. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site) Antirequisite: COLLAB 1D03, NURSECON 1B03, 1D03 Not open to students with credit or registration in PSYCH 1A03  
COLLAB 1C03 PSYCHOLOGY: BASIC PROCESSES OF BEHAVIOUR  
Basic concepts of psychological research methods, learning, memory, perception, states of consciousness, motivation and emotion. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: COLLAB 1A03, NURSECON 1A03, 1C03 Not open to students with credit or registration in PSYCH 1A03  
COLLAB 1D03 PSYCHOLOGY: DYNAMICS OF HUMAN BEHAVIOUR  
Stress and stress management, thinking and intelligence, the biological basis of behaviour, social psychology, personality theory and measurement, abnormal behaviour and therapies. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: COLLAB 1D03, NURSECON 1B03, 1D03 Not open to students with credit or registration in PSYCH 1A03  
COLLAB 1E03 ESSENTIALS OF CANADIAN HISTORY  
A study of recurrent themes in public affairs within the historical context of Canada from Confederation to the present. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: HISTORY 2J05, NURSECON 1E03  
COLLAB 1F03 POLITICAL STRUCTURES AND ISSUES  
Introduction to the study of politics within the Canadian context. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: NURSECON 1F03  
COLLAB 1G03 MULTICULTURALISM  
An examination of the ethnic and cultural diversity of Canadian society, including an investigation of Canada's multicultural policy. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: NURSECON 1G03  
COLLAB 1H03 INTRODUCTION TO CRITICAL THINKING IN THE SOCIAL SCIENCES  
The basic principles of the social sciences disciplines, Economics, Sociology and Politics. The development of critical thinking by focusing on inequalities in contemporary Canadian society. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: NURSECON 1H03  
COLLAB 1I03 SOCIOLOGY I  
An analysis of Canadian social institutions and social processes. Three hours; one term Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site) Antirequisite: NURSECON 1I03
COLLAB 2A03  ABNORMAL PSYCHOLOGY
Applied principles and related theories of normal and abnormal personality development.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2A03

COLLAB 2B03  FRENCH IN A CANADIAN CONTEXT
An introduction to French culture in a Canadian context.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2B03

COLLAB 2C03  SOCIOLOGY I
The study of various aspects of Canadian society including social class, gender, religion, education, health care and family.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2C03

COLLAB 2D03  HUMAN SEXUALITY
An introduction to biological, behavioural and cultural aspects of human sexuality.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2D03

COLLAB 2E03  LITERATURE: A PRACTICAL APPROACH
Various literary, cinematic and non-fiction works will be used to develop aesthetic judgment.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2E03

COLLAB 2F03  MEDICAL INFORMATICS
A study of current topics in Medical Informatics and their practical application in the workplace.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (A) or (D) Stream (Mohawk College site)
Antirequisite: NURSECON 2F03
Enrolment is limited.

COLLAB 2G03  QUEST FOR MEANING
Using insights from the arts, humanities and sciences, students will explore ways in which meaning is sought.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)
Antirequisite: NURSECON 2G03

COLLAB 2H03  PRINCIPLES OF ETHICAL REASONING
A study of ways to clarify values and establish a framework for ethical decision making. Students examine professional ethical codes and apply ethical decision making models to dilemmas in their personal and professional lives.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)
Antirequisite: NURSECON 2H03

COLLAB 2I03  THE USES OF LAUGHTER:
COMEDY AND SATIRE
This course will explore the history of comedy and satire through works ranging from ancient Greek comedy to contemporary film and fiction.
One hour (lecture), two hours (discussion/seminar); one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)
Antirequisite: NURSECON 2I03

COLLAB 2J03  DESIRE IN LITERATURE
The historical and cross-cultural coverage of this course will lead to an in-depth consideration of the ways culture, society and art shape desire and are in turn informed by it.
One hour (lecture), two hours (discussion/seminar); one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Conestoga College site)
Antirequisite: NURSECON 2J03

COLLAB 2K03  INTRODUCTION TO HEALTH INFORMATICS
An introduction to the theory of data and information needs of health care professionals and the role of information management in patient care. Topics include decision support systems, electronic records, telemedicine, security, privacy and future trends.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (A) or (D) Stream (Conestoga College site)

COLLAB 2L03  INTRODUCTION TO STATISTICS
An introductory course in statistics which includes organizing and graphing univariate and bivariate data; measures of central tendency and variation; regression and correlation; collecting data, experiments and surveys; probability distributions; sampling distribution confidence interval and hypothesis testing; use of MINITAB.
Three hours (lecture); one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)

COLLAB 3A03  SOCIOLOGY: SOCIETY, TECHNOLOGY AND SOCIAL ISSUES
An examination of technologies that have influenced society.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 3A03

COLLAB 3B03  SOCIOLOGY: DIVERSITY AND INEQUALITY
A study of the problems of daily life and social issues.
Three hours; one term
Prerequisite: Registration in B.Sc.N. (D) Stream (Mohawk College site)
Antirequisite: NURSECON 3B03

COLLAB 4H03  ISSUES IN INTERNATIONAL AND INTERCULTURAL HEALTH
An introduction to health issues in a rural Canadian and international context including theories of development; political economy; medical and social anthropology; and intercultural health care practice.
Three hours (lecture/problem based tutorial); one term
Prerequisite: HTH SCI 3B03; and registration in Level III or IV of the B.Sc.N. (D) Stream; and permission of the instructor
Antirequisite: HTH SCI 4H03 or NURSING 4H03

NURSING CONSORTIUM

(SEE NURSING, NURSING CONSORTIUM (D) STREAM)

OJIBWE

(SEE INDIGENOUS STUDIES, OJIBWE)

ORIGINS

WEB ADDRESS: http://origins.mcmaster.ca
Life Sciences Building, Room 327
Ext. 26136

Note:
ORIGINS courses usually are available to students who are registered in the Origins Research Specialization.

Courses  If no prerequisite is listed, the course is open.

ORIGINS 2B03  BIG QUESTIONS
An introductory survey concerning ultimate questions in modern science, with an emphasis on physical sciences: origin of space-time, elements, structure in the cosmos, conditions for life and the search for life on other planets.
Three lectures, one tutorial; first term.
Prerequisite: Registration in Level II or above of an Origins Research Specialization and credit or registration in ORIGINS 2S03; or permission of the instructor
Cross-list: SCIENCE 2B03

ORIGINS 2F03  ORIGINS AND EVOLUTION OF ORGANISMS
An introductory survey concerning the origin and evolution of organisms. A tree-of-life will be examined internally from the root to terminal branch tips, by evaluating critically the data with which the tree was constructed.
Three lectures, one tutorial; one term.
Prerequisite: BIOLOGY 1A03, CHEM 1A03, MATH 1A03, PHYSICS 1B03

ORIGINS 2S03  ORIGINS SEMINAR I
An introductory survey concerning the concepts, literature, and research skills relevant to origins research. Members from or visitors to the Origins Institute will provide papers for discussion.
Seminar (one hour); two terms.
Prerequisite: Registration in an Origins Research Specialization or permission of the instructor
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

ORIGINS 3A03  ORIGIN OF SPACE-TIME
The mathematics, particle physics, and astronomy that are required to understand the Big Bang and how our universe formed will be explored.
Three hours; one term
Prerequisite: ORIGINS 2S03 or permission of the instructor
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
ORIGINS 3B03 ORIGIN OF THE ELEMENTS
The chemistry, nuclear physics and astrophysics that are required to understand how the elements formed and are distributed in our universe will be explored.
Three hours; one term
Prerequisite: ORIGINS 2S03 or permission of the instructor
Offered in alternate years.
Offered in 2007-2008.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

ORIGINS 3E03 ORIGIN OF LIFE
Topics in astrobiology will be explored: planetary system formation, conditions in extra-solar systems, criteria for defining and sustaining life, and 'extremophile' systems on Earth and, possibly, elsewhere in our solar system.
Three hours; one term
Prerequisite: ORIGINS 2S03 or permission of the instructor
Offered in alternate years.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

ORIGINS 3F03 ORIGIN OF HUMANITY
The concepts that are required to understand how species originate will be explored: natural selection, adaptations species definitions, temporal and spatial origins for organisms on Earth.
Three hours; one term
Prerequisite: ORIGINS 2S03 or permission of the instructor
Offered in alternate years.
Offered in 2007-2008.
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PEACE STUDIES
WEB ADDRESS: http://www.humanities.mcmaster.ca/~peace
Togo Salmon Hall, Room 726
Ext. 24265

Committee of Instruction
Chair
Mark Vorobej (Philosophy)
James Alsop (History)
Andrew Bone (History)
Chandrima Chakraborty (English and Cultural Studies)
Juanita DeBarros (History)
Martin Horn (History)
Violetta Igneski (Philosophy; Communication Studies and Multimedia)
Joanna Santa-Barbara (Health Sciences)
Susan Sears-Giroux (English and Cultural Studies)
Pamela Swett (History)

Courses
If no prerequisite is listed, the course is open.

PEACE ST 1A03 INTRODUCTION TO PEACE STUDIES
An introduction to the discipline of peace research, focusing on the concepts of peace, war, security, conflict, violence and nonviolence, and examining the roles of values and ideologies in the attainment of peace.
Three hours (two lectures, one tutorial); one term

PEACE ST 1B03 INTRODUCTION TO THE STUDY OF WAR
A Peace Studies approach to the study of war, including the effects of war on people, societies and the earth. War prevention processes will be examined at the levels of interstate and state politics, social movements, and individual peace.
Three hours (two lectures, one tutorial); one term

PEACE ST 2A03 CONFLICT TRANSFORMATION: THEORY AND PRACTICE
An examination of ways of preventing, resolving and transforming conflicts in everyday life, in our own culture and others, and in the arenas of family, business, the law, schools and large-scale political conflicts.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Antirequisite: CMST 2V03

PEACE ST 2A03 THE MODERN CARIBBEAN
An examination of the nineteenth- and twentieth-century Caribbean, focusing on the end of slavery, the arrival of indentured Asian immigrants, pan-Africanism, anti-colonial movements and revolution.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2A03
This course is administered by the Department of History.

PEACE ST 2I03 SOCIAL AND POLITICAL ISSUES
A philosophical examination of some contemporary issues in public policy, such as environmental problems, the question of a just distribution of society's goods and services, and problems of liberty and coercion.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: PHILOS 2G03
This course is administered by the Department of Philosophy.

PEACE ST 2I13 MODERN GERMANY
This course examines the complexities of German social and political history since 1850, including World War One, Third Reich, cold war division, questions of national identity and the peaceful revolution of 1989.
Three hours (lectures and discussion groups); one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2I13
Antirequisite: HISTORY 3G03, PEACE ST 3G03
This course is administered by the Department of History.

PEACE ST 2I23 WAR IN THE WEST, 1850-1945
A survey of the development of warfare in the Western world from 1850 to 1945. Particular attention is paid to the two World Wars in the 20th century.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2I23
This course is administered by the Department of History.

PEACE ST 3A03 CRITICAL RACE STUDIES
This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory. English; Peace Studies or Women's Studies
Cross-list: COMP LIT 3R03, CSSCT 3A03, ENGLISH 3A03, WOMEN ST 3H03
This course is administered by the Department of English and Critical Studies.
PEACE ST 3B03  PEACE BUILDING THROUGH HEALTH INITIATIVES
An examination of the multiple links between health and peace, concentrating on the strategic use of health initiatives to encourage peace in zones of potential conflict. Three hours (lectures and discussion); one term. Prerequisite: Registration in Level II or above.

PEACE ST 3E05  POSTCOLONIAL CULTURES: THEORY AND PRACTICE
A study of contemporary texts including literature, film, art and other forms of popular culture that engage the implications of living in a postcolonial world. Close consideration will be given to issues of imperialism, globalization, race, gender, ethnicity, nation, and language and representation. Three hours; two terms. Prerequisite: Registration in the Combined Honours in Peace Studies Program. Cross-list: COMP LIT 3R06, CSCT 3R06, ENGLISH 3R06. This course is administered by the Department of English and Cultural Studies.

PEACE ST 3F03  THE MODERN MIDDLE EAST
A survey of the political and social history of the Middle East from 1800 to the present, with an emphasis on contemporary issues, such as the Islamic impulse and the Arab-Israeli conflict. Three hours (lectures and discussion); one term. Prerequisite: Registration in Level II or above. Cross-list: HIST 3A03. This course is administered by the Department of History.

PEACE ST 3I03  THE INTERNATIONAL RELATIONS OF THE EUROPEAN POWERS, 1870-1945
An examination of the origins and cause of the First World War, the failure of post-war stabilization, and the origins and course of the Second World War. Three lectures; one term. Prerequisite: Registration in Level II or above. Cross-list: HIST 3I03. This course is administered by the Department of History.

PEACE ST 3L03  THE HISTORY OF SOCIAL ACTIVISM, 1500-2000
A thematic study of community activism in Europe and North America. Students will be exposed to the religious, socio-economic and political contexts of social activism, and the historical theory and practice of community-based action. Three hours; one term. Prerequisite: Registration in Level II or above. Cross-list: HIST 3L03. This course is administered by the Department of History.

PEACE ST 3M03  PHILOSOPHIES OF WAR AND PEACE
A philosophical appraisal of the rationality and morality of the conduct of war and proposals for fostering peace among nations. Three lectures; one term. Prerequisite: At least three units of Philosophy, and registration in Level III or IV of any program; or registration in Level III or IV of the Combined Honours in Peace Studies Program. Cross-list: PHILOS 3M03. Offered in alternate years. This course is administered by the Department of Philosophy.

PEACE ST 3M33  THE LITERATURE OF ISRAEL AND PALESTINE
Through the study of relevant literature and film, with a focus on contemporary Israeli and Arab texts, students gain a context for the exploration of conflicts in the Middle East. Three hours; one term. Prerequisite: Registration in Level II or above. Cross-list: COMP LIT 3M33. This course is administered by Comparative Literature.

PEACE ST 3N03  ETHICAL ISSUES IN COMMUNICATION
This course will examine ethical issues as they arise in interpersonal communication and mass communication. The dominant moral theories and approaches to moral decision-making will be analysed and put to use to help students understand and evaluate concrete examples. Three hours (lectures and discussion groups); one term. Prerequisite: CMST 2C03; and one of CMST 2A03 or 2B03; and registration in Level III or above of a program in Communication Studies or Peace Studies Program. Cross-list: CMST 3N03. Not open to students with credit in CMST 3A03, TOPICS IN COMMUNICATION, if the topic was Ethical Issues in Communication. This course is administered by the Department of Communication Studies and Multimedia.

PEACE ST 3Q03  SLAVERY IN THE ATLANTIC WORLD
An examination of slavery in the Americas, from the fifteenth to the nineteenth centuries. Topics to be examined include plantations and labour regimes, gender, slave health, slave resistance, Afro-Atlantic cultures, emancipation. Three hours (lecture and discussion); one term. Prerequisite: Registration in Level II or above. Cross-list: HISTORY 3Q03. This course is administered by the Department of History.

PEACE ST 3R03  WAR AND SOCIETY IN 20TH-CENTURY BRITAIN
Imperialism and Society in Britain: the impact of World War I and World War II on the British Empire. Three hours (lectures and discussion groups); one term. Prerequisite: Registration in Level II or above. Cross-list: HISTORY 3R03. This course is administered by the Department of History.

PEACE ST 3V03  WAR AND SOCIETY IN EARLY MODERN BRITAIN, 1450-1815
A thematic study of the nature of British warfare and its relationship to society during the period when Britain developed as a major military and naval power. Three hours (lectures and discussion groups); one term. Prerequisite: Registration in Level II or above. Cross-list: HISTORY 3V03. This course is administered by the Department of History.

PEACE ST 3W03  CONTEMPORARY NATIVE LITERATURE IN CANADA
A study of significant works by Native writers who give voice to their experiences in Canada. Issues examined include appropriation of voice, native identity, women in indigenous societies, and stereotyping. Three hours (lectures and seminars); one term. Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor. Cross-list: CSCT 3W03, ENGLISH 3W03, INDIG ST 3D03. This course is administered by Indigenous Studies.

PEACE ST 3X03  CONTEMPORARY NATIVE LITERATURE IN THE UNITED STATES
A study of contemporary works by Native writers in the United States within the context of American society and Post-Modern and Post-Colonial Literary Theory. Three hours (lectures and seminars); one term. Prerequisite: Six units of Level II Indigenous Studies or six units of Level II English or permission of the instructor. Cross-list: CSCT 3X03, ENGLISH 3X03, INDIG ST 3E03. This course is administered by Indigenous Studies.

PEACE ST 3Y03  SPECIAL TOPICS IN PEACE STUDIES
Guided reading in and/or independent study of selected topics of relevance to Peace Studies. Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program and permission of the Director of Peace Studies. This course is offered in alternate years. Cross-list: WOMEN ST 3Z03. Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or Peace Studies Program or permission of the Director of the program. Cross-list: WOMEN ST 3Z03.

PEACE ST 4A03  RESEARCH SEMINAR
An interdisciplinary examination of selected topics of current relevance to peace research. Seminar (two hours); one term. Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program.

PEACE ST 4B03  INDEPENDENT RESEARCH
Students develop and execute their own research projects, in regular consultation with a faculty supervisor, and produce and orally defend a substantial paper. May include a practicum component. Prerequisite: Registration in Level III or IV of the Combined Honours in Peace Studies Program with a cumulative average of at least 8.5, and permission of the Director of Peace Studies.

PEACE ST 4C03  THEORY OF VALUE
A study of human practices of evaluation in morality, politics, art, religion, and economics. Seminar (two hours); one term. Prerequisite: PHILOS 3G03 and registration in Level III or above Cross-list: PHILOS 4B03. Offered in alternate years. This course is administered by the Department of Philosophy.
PHARMACOLOGY

PHARMACOLOGY

One tutorial (three hours); two terms
Prerequisite: Registration in the Honours Biology and Pharmacology program

Courses

PHARMAC 3A06 INTRODUCTION TO PHARMACOLOGY
Principles of pharmacodynamics, principles of pharmacokinetics. Drugs acting on the CNS, female reproductive system, autonomic nervous system and respiratory system. Anemicrobials.
One tutorial (three hours); two terms
Prerequisite: Registration in the Honours Biology and Pharmacology program

PHARMAC 3B06 METHODS IN PHARMACOLOGY
Methods to study effects of drugs in vitro (such as organ baths, ligand binding, and electrophysiological actions) and analysis of pharmacological data.
One lab (six hours); two terms
Prerequisite: Credit or registration in PHARMAC 3A06

PHARMAC 4A03 RECEPTOR-DRUG INTERACTIONS
Receptor classification, receptor theory, stimulus response coupling, second messengers.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4A03 ADVANCED TOPICS IN PHARMACOLOGY
New developments in pharmacology, with an emphasis on mechanisms of drug action.
One tutorial (three hours); one term
Prerequisite: PHARMAC 4A03

PHARMAC 4C03 PRINCIPLES OF TOXICOLOGY
General principles of toxicology, adverse effects of selected agents on man and other organisms.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4D03 DRUG DESIGN
Principles of drug design based on drug transport, metabolism and selectivity of action at the target sites with emphasis on quantitative structure-activity relationships.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06, 4A03

PHARMAC 4E03 SOCIAL PHARMACOLOGY
Epidemiological analysis of drug use in humans; adverse drug reactions; legal and economic aspects of drug utilization, prescribing patterns in national and international contexts.
One tutorial (three hours); one term
Prerequisite: PHARMAC 3A06

PHARMAC 4F09 SENIOR THESIS
A thesis based upon a research project carried out under the direction of a supervisor approved by the Committee of Instruction.
Prerequisite: PHARMAC 3A06
Antirequisite: BIOLOGY 4C03, 4F06, 4F07, 4G09, 4I03, HTH SCI 3H03, 4A09, 4B05, MOLBIOL 4R09

PHILOSOPHY

WEB ADDRESS: http://www.humanities.mcmaster.ca/~philos
University Hall, Room 310
Ext. 24275

Faculty as of January 15, 2007

Chair
Richard T.W. Arthur

Professors
Barry Allen/B.A. (Lethbridge), Ph.D. (Princeton)
Nicholas Griffin/B.A. (Leicester), Ph.D. (Australian National)
David L. Hitchcock/B.A. (McMaster), Ph.D. (Claremont)
Wilfrid Waluchow/B.A., M.A. (Western Ontario), D.Phil. (Oxford)

Adjunct Professor
Kenneth M. Blackwell/Russell Archivist, Mills Library, B.A. (Victoria), M.L.S. (Western Ontario), M.A. (McMaster), Ph.D. (Guelph)

Associate Professors
Elisabeth Gedge/B.A., M.A. (Alberto), Ph.D. (Calgary), MTh. (Newman Theological College)
Jill LeBlanc/B.A. (McMaster), M.A., Ph.D. (Toronto)
Spirou Fanagoria/B.Sc., M.A. (Guelph), Ph.D. (St. Andrews)
Brigitte Sassen/B.A. (Toronto), M.A., Ph.D. (Pennsylvania State)
Mark Vorobei/B.A. (Carleton), M.A., Ph.D. (Toronto)

Assistant Professors
Diane Emms/B.A. (Ottawa), M.A. (Carleton), Ph.D. (SUNY-Binghamton)
Brian Garrett/B.A., M.A. (Auckland), Ph.D. (McGill)
Violetta Igrekova/B.A., M.A. (Western Ontario), Ph.D. (Toronto)

Associate Members
Caroline Bayard/French) L. des L., M. des L. (Toulouse), M.A., Ph.D. (Toronto)
Geoffrey Rockwell/School of the Arts), B.A. (Haverford), M.A., Ph.D. (Toronto)

Department Notes:
1. The Department of Philosophy offers courses in four major areas of Philosophy, namely History of Philosophy, Logic, Ethics and Theory of Value, and Theory of Knowledge and Metaphysics. Students are advised to include courses from each of these areas in their programs.
2. Students who do not meet the specified prerequisites for a course may, in exceptional circumstances, obtain permission of the instructor to take the course.
3. An Undergraduate Philosophy Handbook is available in the Departmental Office.
4. Students interested in registering in PHILOS 3W03, 4W03 or 4Z06 are strongly encouraged to obtain permission from the Departmental Undergraduate Counsellor by the end of May of the preceding year.
   Access to these courses cannot be guaranteed beyond that date.

Courses

PHILOSOPHY 1A03 PHILOSOPHICAL TEXTS
An introduction to philosophy through the close reading of selected classical texts. Authors to be considered may include Plato, Descartes, Hobbes, Hume, Marx, Mill, Nietzsche, Russell, and De Beauvoir.
Two lectures, one tutorial; one term

PHILOSOPHY 1B03 PHILOSOPHY, LAW AND SOCIETY
An introduction to social, political, legal and moral philosophy. Topics to be discussed may include ecology, health-care ethics, civil rights, and alternative views of human nature, the state, social conflict, inequality and justice.
Two lectures, one tutorial; one term

PHILOSOPHY 1C03 PHILOSOPHY IN LITERATURE
An introduction to philosophy through the study of literature. The course shows how works of literary art treat such philosophical issues as the nature of morality, the possibility of freedom, human nature, the self, and religious belief.
Two lectures, one tutorial; one term

PHILOSOPHY 1D03 PHILOSOPHY AND THE SCIENCES
An introduction to philosophical issues arising from modern science and technology. Topics to be discussed may include science versus pseudo-science, the nature of scientific explanation, the impact of science on society, and the contribution of society to the development of science.
Two lectures, one tutorial; one term
Not open to students with credit or registration in PHILOS 3D03.

PHILOSOPHY 1E03 PROBLEMS OF PHILOSOPHY
A critical investigation of philosophical arguments concerning such topics as God, politics, morality, human nature, knowledge, and art.
Two lectures, one tutorial; one term
PHILOS 2A06  ANCIENT GREEK PHILOSOPHY
A study of Western philosophical thought from its earliest beginnings to
late Roman times, with emphasis on Plato and Aristotle.
Three lectures; two terms
Prerequisite: One of three units of Philosophy, ARTS&SCI 1A06, registration
in a program in Classics or Philosophy, or permission of the Department
Cross-list: CLASSICS 2P06

PHILOS 2B03  INTRODUCTORY LOGIC
Sentential and quantification logics are introduced and applied to argu-
ments in English.
Three lectures; one term
Prerequisite: Registration in Level II or above

PHILOS 2C06  DESCARTES TO HUME
A comprehensive survey of early modern philosophy, concentrating on
the metaphysical and epistemological innovations of the period.
Three lectures; two terms
Prerequisite: Registration in Level II or above

PHILOS 2D03  MORAL ISSUES
An introduction to moral philosophy, through a consideration of issues in
health care ethics. Topics such as abortion, human experimentation,
euthanasia, and genetic screening will be investigated.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above

PHILOS 2E03  CLASSICAL CHINESE PHILOSOPHY
Introductory survey of classical Chinese philosophy, especially Confucian-
ism and Daoism. Readings include Confucius, Mencius, Laozi and Zhuangzi.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: RELIG ST 2003

PHILOS 2F03  PHILOSOPHICAL PSYCHOLOGY
A consideration of such questions as: In what terms might human nature be
described? How do intentional and unintentional behaviour differ?
How do physical and mental states differ? When is action free? Can
intelligence be duplicated artificially?
Three lectures; one term
Prerequisite: Registration in Level II or above

PHILOS 2G03  SOCIAL AND POLITICAL ISSUES
A philosophical examination of some contemporary issues in public policy,
such as environmental problems, the question of a just distribution of
society's goods and services, and problems of liberty and coercion.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: PEACE ST 2003

PHILOS 2H03  AESTHETICS
An introduction to some main theories of the nature of art, criticism, and
the place of art in life and society.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: ART HIST 2H03; CMST 2003
Offered in alternate years.

PHILOS 2J03  BUSINESS ETHICS
An analysis of ethical issues arising in contemporary business life. Sample
topics include: fair and unfair competition; responsibilities towards
employees, society and the environment; honesty and integrity in busi-
ness; the moral status of corporations.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: COMMERCE 2B83

PHILOS 3A06  FROM KANT TO HEGEL
The philosophies of Kant and Hegel viewed in relation to each other and
to other philosophies of the period, such as those of Rousseau or Schelling.
Three lectures; two terms
Prerequisite: PHILOS 2C06

PHILOS 3B03  PHILOSOPHIES OF EXISTENCE
An examination of the 19th-century forerunners of contemporary existential
philosophy, concentrating principally on the thought of Kierkegaard and Nietzsche.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or above
Offered in alternate years.

PHILOS 3C03  ADVANCED BIOETHICS
An advanced study of the application of ethical theory to selected prob-
lems in health care, such as our reproductive practices, care of the
dying, the therapeutic relationship.
Three lectures; one term
Prerequisite: A grade of at least B in PHILOS 2D03 or RELIG ST 2C03, and
at least three additional units of Philosophy; or registration in Level III or above
of an Honours program in Philosophy
Offered in alternate years.

PHILOS 3D03  PHILOSOPHY OF SCIENCE
A survey of philosophical problems concerning science. Topics to be
considered include explanation, causation, scientific laws, and
instrumentalism vs. realism.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or above
Offered in alternate years.

PHILOS 3E03  PHILOSOPHY OF LANGUAGE
A survey of philosophical problems concerning language. Topics to be
considered include reference, synonymy, truth, and linguistic knowledge.
Three lectures; one term
Prerequisite: At least six units of Philosophy or PHILOS 2B03; and regis-
tration in Level III or above
Cross-list: CMST 2Y03
Offered in alternate years.

PHILOS 3F03  INTERMEDIATE LOGIC
Selected topics in the study of formal languages and their interpreta-
tions, metalogic, and the philosophy of logic.
Three lectures; one term
Prerequisite: PHILOS 2B03
Offered in alternate years.

PHILOS 3G03  ETHICS
An introduction to the major types of ethical theory and the problem of
their justification.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or above

PHILOS 3H03  PHILOSOPHY OF RELIGION
An analysis of the concept of religion in light of the philosophical claims
of religious experience, practice, and belief.
Three lectures; one term
Prerequisite: Six units of Philosophy and registration in Level III or above
Offered in alternate years.

PHILOS 3I03  PHILOSOPHY AND FEMINISM
A study of philosophical issues in feminist thought.
Three lectures; one term
Prerequisite: Six units of Philosophy or WOMEN ST 1A03, 1A03 (or
1A03); and registration in Level III or above
Cross-list: WOMEN ST 3103
Offered in alternate years.

PHILOS 3J03  MODERN JEWISH THOUGHT
Introduction to different conceptions of the connection between Jewish
traditions and philosophical questioning. Authors may include: Maimonides,
Spinoza, Mendelssohn, Cohen, Buber, Rosenzweig, Strauss, Levinas,
Sobotovitch.
Three hours (lectures and discussion); one term
Cross-list: RELIG ST 3A03
This course is administered by the Department of Religious Studies.

PHILOS 3L03  ENVIRONMENTAL PHILOSOPHY
A consideration of the characterization of nature and/or our evaluative
responses to it.
Three lectures; one term
Prerequisite: At least six units of Philosophy and registration in Level III or above
Offered in alternate years.

PHILOS 3M03  ARGUMENTATION THEORY
A study of some theoretical issues concerning the identification, analy-
sis and evaluation of arguments.
Three hours (lectures and discussion); one term
Prerequisite: One of ARTS&SCI 1B05, CMST 2W03, HUMAN 2C03 or
PHILOS 2B03; and registration in Level II or above
Cross-list: CMST 3E03
PHILOS 3N03  **POLITICAL PHILOSOPHY**  A study of major political concepts and issues, such as social contract, ideology, justice, freedom vs. equality, reform vs. revolution, state vs. individual. Three lectures; one term  Prerequisite: At least six units of Philosophy and registration in Level III or above  Offered in alternate years.

PHILOS 3C03  **THEORY OF KNOWLEDGE**  A study of scepticism and certainty, knowledge and belief, perception, memory, and truth. Three lectures; one term  Prerequisite: PHILOS 2C06

PHILOS 3P03  **PHILOSOPHIES OF WAR AND PEACE**  A philosophical appraisal of the rationality and morality of the conduct of war and proposals for fostering peace among nations. Three lectures; one term  Prerequisite: At least six units of Philosophy and registration in Level III or above; or registration in Level III or IV of the Combined Honours in Peace Studies Program  Cross-list: PEACE ST 3M03  Offered in alternate years.

PHILOS 3Q03  **PHILOSOPHY OF LAW**  An investigation of the nature of law and of issues arising within legal systems. These issues include legal reasoning, equality, legal insanity, punishment, and the Charter of Rights and Freedoms. Three lectures; one term  Prerequisite: At least six units of Philosophy and registration in Level III or above

PHILOS 3W03  **READING COURSE**  A tutorial course in which individual students meet regularly with an instructor on a list of readings outside normally available course offerings. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.  Prerequisite: Registration in Level III or IV of any program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department  Offered in alternate years.

PHILOS 4A03  **EARLY MODERN PHILOSOPHY**  A critical study of one or more 17th or 18th-Century European or British philosophers, such as Descartes, Leibniz, Hume. Seminar (Two hours); one term  Prerequisite: PHILOS 2C06 and registration in Level III or above  Offered in alternate years.

PHILOS 4B03  **THEORY OF VALUE**  A study of human practices of evaluation in morality, politics, art, religion, and economics. Seminar (Two hours); one term  Prerequisite: PHILOS 3G03 and registration in Level III or above  Cross-list: PEACE ST 4C03  Offered in alternate years.

PHILOS 4D03  **20TH-CENTURY ANALYTIC PHILOSOPHY**  A study of some main currents of 20th-Century philosophy, including the work of such figures as Russell, Wittgenstein, Quine, and Davidson. Seminar (Two hours); one term  Prerequisite: At least six units of Philosophy and registration in Level III or above  Offered in alternate years.

PHILOS 4E03  **EXISTENTIALISM AND PHENOMENOLOGY**  A study of selected texts of major existential and phenomenological philosophers in the 20th-century, such as Camus, Heidegger, Jaspers, Marcel. Seminar (Two hours); one term  Prerequisite: At least six units of Philosophy and registration in Level III or above

PHILOS 4F03  **RECENT EUROPEAN PHILOSOPHY**  Contemporary trends in European Philosophy as represented by such writers as Derrida, Foucault and Habermas. Seminar (Two hours); one term  Prerequisite: At least six units of Philosophy and registration in Level III or above  Offered in alternate years.

PHILOS 4H03  **METAPHYSICS**  An investigation of metaphysical concepts, such as substance, individuation, identity, essence, quality, process, mind, time and causality. Some contemporary criticisms of metaphysics will be discussed. Seminar (Two hours); one term  Prerequisite: PHILOS 2A06, 2C06 and registration in Level III or above of a program in Philosophy

PHILOS 4I03  **MEDIEVAL PHILOSOPHY**  A study of one or more central medieval philosophers, such as Augustine, Aquinas, or William of Ockham. Seminar (Two hours); one term  Prerequisite: PHILOS 2A06 or 2C06  Offered in alternate years.

PHILOS 4K03  **ANCIENT PHILOSOPHY**  A critical study of one or more ancient Greek philosophers such as Parmenides, Plato, Aristotle. Seminar (Two hours); one term  Prerequisite: PHILOS 2A06 and registration in Level III or above  Antirequisite: PHILOS 4C03, 4J03  Cross-list: CLASSICS 4K03  Offered in alternate years.

PHILOS 4L03  **INDEPENDENT STUDY**  In consultation with a member of the Department of Philosophy, students will prepare an essay on an approved topic, on the basis of a list of readings outside normally available course offerings. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.  Prerequisite: Registration in Level IV of any Honours program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department  Antirequisite: PHILOS 4Z06

PHILOS 4M03  **THESIS**  Reading and research under the supervision of two members of the Department. A major paper is required as well. A final examination. It is the student's responsibility to secure the agreement of an instructor and to complete a proposal form (available in the Philosophy Department office), before attempting to register in the course.  Prerequisite: Registration in Level IV of any Honours program in Philosophy, with a Cumulative Average of at least 8.5 and permission of the Department  Antirequisite: PHILOS 4W03

Faculty as of January 15, 2007

**Chair**
D.E. Venus

**Associate Chair**
K. Dalnoki-Veress

**Professors**
A. John Berlinsky/B.Sc. (Fordham), M.Sc., Ph.D. (Pennsylvania)
Cliff Burgess/B.Sc. (Waterloo), Ph.D. (Texas)
Hugh M. Coughlan/B.A., M.A., Ph.D. (Cambridge)
Bruce D. Gaulin/B.Sc. (McGill), Ph.D. (McMaster), Brockhouse Chair in the Physics of Materials
William E. Harris/B.Sc. (Alberta), M.Sc., Ph.D. (Toronto)
Harold K. Haugen/B.Sc. (Acadia), M.Eng. (McMaster), Ph.D. (Aarhus)
Paul G. Higgs/B.Sc., Ph.D. (Cambridge), Senior Canada Research Chair
Takashi Imari/B.Sc., M.Sc., Ph.D. (Tokyo)
Catherine Killin/B.Sc. (British Columbia), A.M., Ph.D. (Harvard), Senior Canada Research Chair
Graeme M. Luke/B.Sc. (Queens), Ph.D. (British Columbia)
Ralph E. Pudritz/B.Sc. (British Columbia), M.Sc. (Toronto), Ph.D. (British Columbia)
An-Chang Shi/B.Sc. (Fudan), M.Sc., Ph.D. (Illinois)

**WEB ADDRESS:** http://www.physics.mcmaster.ca/
**A.N. Brown Science Building, Room 241**

**Ext. 24559**
Astronomy

Courses

ASTRON 1F03 INTRODUCTION TO ASTRONOMY AND ASTROPHYSICS

Topics include orbital motion, electromagnetic radiation, the solar system, stars and stellar evolution, the Milky Way Galaxy, galaxies and quasars, the evolution of the universe.

Three lectures; one term
Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U and Grade 12 Physics U; or PHYSICS 1P03

Prerequisite (Beginning 2008-2009): One of Grade 12 Advanced Functions and Introductory Calculus U, Grade 12 Physics U or MATH 1E03; and Grade 12 Physics U or PHYSICS 1L03

Cross-list: PHYSICS 1F03

Antirequisite: SCIENCE 1D03

ASTRON 2E03 PLANETARY ASTRONOMY

Physical and mathematical foundation of planetary astronomy. Historical development of ideas about the solar system. A modern view of the planets; the origin and evolution of the solar system and planets around other stars.

Three lectures; one term
Prerequisite: One of PHYSICS 1B03, 1D03 or ARTS&SCI 2D06; and one of MATH 1A03, 1N03 or ARTS&SCI 2D06

ASTRON 3X03 GALAXIES AND COSMOLOGY

Stellar populations, star formation, and the interstellar medium in galaxies. The Milky Way Galaxy; normal and active galaxies and large scale structure in the universe; observational and theoretical cosmology.

Three lectures and occasional lab periods; one term
Prerequisite: PHYSICS 2D03 or 2E03; and one of ENG PHYS 2A03, 2A04, PHYSICS 2A03 or 2B08; and either one of CHEM 2R03, ENG PHYS 2H04 or PHYSICS 2H04, or both CHEM 2P03 and 2P04

Alternates with ASTRON 3Y03.

Astronomy 3Y03 STELLAR STRUCTURE

The physics of stellar interiors. The main sequence and the life cycle of a star. Stellar evolution, including white dwarfs, neutron stars, and black holes. Taught in an inquiry style.

Three lectures; one term
Prerequisite: PHYSICS 2D03 or 2E03; and one of ENG PHYS 2A03, 2A04, PHYSICS 2A03 or 2B08; and either one of CHEM 2R03, ENG PHYS 2H04 or PHYSICS 2H04, or both CHEM 2P03 and 2P04. PHYSICS 2G03 is strongly recommended.

Alternates with ASTRON 3X03.


Physics

Courses

If no prerequisite is listed, the course is open.

PHYSICS 1B03 MECHANICS AND WAVES

Mechanics of a point particle, emphasizing work and energy. Fluids. Simple Harmonic Motion and Waves, including properties of sound and light waves, interference and diffraction.

Three lectures; one lab (two hours) every week; one term
Prerequisite: Either PHYSICS 1P03 or at least 60% in Grade 12 Physics U; and credit or registration in SCIENCE 1A00 and either MATH 1A03 or 1A04

Prerequisite (Beginning 2008-2009): One of Grade 12 Physics U, PHYSICS 1L03 or 1P03; and one of Grade 12 Calculus and Vectors U, MATH 1F03 or 1L03; and credit or registration in SCIENCE 1A00

PHYSICS 1B03 INTRODUCTION TO MODERN PHYSICS A

A course for students intending to proceed in the physical sciences. Linear and angular momentum. Electric and magnetic fields. Atomic and quantum physics. Nuclear and Particle Physics.

Three lectures; one lab (three hours) every other week; one term
Prerequisite: PHYSICS 1B03

Antirequisite: PHYSICS 1B03

PHYSICS 1B03 INTRODUCTION TO MODERN PHYSICS B


Three lectures; one lab (three hours) every other week; one term
Prerequisite: PHYSICS 1B03

Antirequisite: PHYSICS 1B03

PHYSICS 1D03 INTRODUCTORY MECHANICS

A course for engineering students. Statics, kinematics, Newtonian dynamics, energy.

Three lectures; one lab (three hours) every other week; one term
Prerequisite: Registration in Engineering

PHYSICS 1E03 WAVES, ELECTRICITY AND MAGNETIC FIELDS

A course for engineering students. Oscillations and waves, interference; electrostatics, electric potential, circuit elements; magnetic fields.

Three lectures; one lab (three hours) every other week; one term
Prerequisite: Registration in Engineering

Antirequisite: PHYSICS 2A03

PHYSICS 1F03 INTRODUCTION TO ASTRONOMY AND ASTROPHYSICS

Topics include orbital motion, electromagnetic radiation, the solar system, stars and stellar evolution, the Milky Way Galaxy, galaxies and quasars, the evolution of the universe.

Three lectures; one term
Prerequisite: Grade 12 Advanced Functions and Introductory Calculus U and Grade 12 Physics U; or PHYSICS 1P03

Prerequisite (Beginning 2008-2009): One of Grade 12 Advanced Functions and Introductory Calculus U, Grade 12 Physics U or MATH 1E03; and Grade 12 Physics U or PHYSICS 1L03

Cross-list: PHYSICS 1F03

Antirequisite: SCIENCE 1D03

PHYSICS 2A03 PHYSICS OF LIVING SYSTEMS

Fundamental physical principles are introduced with an emphasis on applications to biological processes. Topics include energy, light, sound, electromagnetics and their interaction with or use by biological systems.

Three lectures; one term
Prerequisite: One of Grade 12 Advanced Functions U, Grade 12 Advanced Functions and Introductory Calculus U or MATH 1E03

PHYSICS 1P03  INTRODUCTORY PHYSICS
Foundations of physics for students without Grade 12 Physics U. Topics include vectors, graphical analysis, kinematics and Newton’s Laws. Three lectures; one term
Prerequisite: Any Grade 12 U or M Mathematics credit
Not open to students with 60% or higher in Grade 12 Physics U. Last offered in 2007-2008.

PHYSICS 2A03  INTRODUCTORY ELECTRICITY AND MAGNETISM
Electrostatics; circuits; the magnetic field; Faraday’s law of induction. Three lectures; one term
Prerequisite: PHYSICS 1B03; and one of ARTS & SCI 1D06, MATH 1AA3 or 1X3
Antirequisite: PHYSICS 1E03, 2B06

PHYSICS 2B06  INTRODUCTORY ELECTRICITY AND MAGNETISM
Electrostatics, D.C. and A.C. circuits, the magnetic field; Faraday’s law of induction; Maxwell’s equations. Three lectures, first term; two lectures, second term; one lab (three hours) every other week; two terms
Prerequisite: PHYSICS 1B03; and credit or registration in MATH 2A03 (or 2X3), 2C03
Antirequisite: PHYSICS 2A03

PHYSICS 2C03  MODERN PHYSICS
Special Relativity; Introductory quantum physics. Three lectures; first term
Prerequisite: PHYSICS 1B03 or 1BB3
Antirequisite: PHYSICS 3M03

PHYSICS 2D03  MECHANICS
Dynamics of a particle, simple harmonic motion and resonance, many-particle systems, the mechanics of rigid bodies, Lagrange’s equations, non-inertial systems. Three lectures; first term
Prerequisite: Registration in a program in the Faculty of Engineering; or permission of the instructor
Antirequisite: PHYSICS 2E03

PHYSICS 2E03  MECHANICS
Dynamics of a particle, simple harmonic motion and resonance, central force problem, many-particle systems, non-inertial systems, generalized coordinates and Lagrange’s equations. Three lectures; second term
Prerequisite: Registration in a program in Physics or Medical and Health Sciences; or PHYSICS 1B03, and credit or registration in MATH 2A03 (or 2X3), 2C03
Antirequisite: PHYSICS 2D03

PHYSICS 2G03  SCIENTIFIC COMPUTING
A comprehensive introduction to modern, scientific structured programming using FORTRAN 95. The course will discuss modules, operator overloading, scripting, program management, etc., and features a series of programming problems under Linux. Three lectures; one term
Prerequisite: MATH 1A03 or 1X03

PHYSICS 2H04  THERMODYNAMICS
An introduction to thermodynamics and its statistical basis at the microscopic level, with applications. Three lectures, one tutorial every other week, one lab (three hours); second term
Prerequisite: PHYSICS 1B03; and credit or registration in MATH 2A03 (or 2X3), 2C03, PHYSICS 1B03 (or 1BB3)
Cross-list: ENG PHYS 2H04;
Antirequisite: CHEM 2P03, 2R03, ENGINEER 2H03, MATLS 2B03
This course is administered by the Department of Engineering Physics.

PHYSICS 3A03  RELATIVITY
An introduction to general relativity. Three lectures; one term
Prerequisite: PHYSICS 2C03; and registration in any Honours program in the Faculty of Science or any program in the Faculty of Engineering Alternatives with PHYSICS 3C03.

PHYSICS 3B03  ELECTRONICS I
P-N junctions, diodes, bipolar junction transistors, field effect transistors, dc and ac modeling, differential amplifiers and operational amplifiers, feedback and oscillators, digital circuits and multivibrators, signal processing. Two lectures; one lab (two hours); first term
Prerequisite: One of ENG PHYS 2A03, 2A04, 2E04 or PHYSICS 2B06
Antirequisite: PHYSICS 3B06

PHYSICS 3BB3  ELECTRONICS II
Design and synthesis project in electronics, based on the material presented in PHYSICS 3B03.
One tutorial (one hour), two labs (three hours); second term
Prerequisite: PHYSICS 3B03
Antirequisite: PHYSICS 3B06

PHYSICS 3C03  ANALYTICAL MECHANICS
Motion of rigid bodies; oscillators and normal modes; Lagrangian and Hamiltonian dynamics; transformation theory and action-angle variables; perturbation theory; non-integrable systems and chaos. Three lectures; one term
Prerequisite: PHYSICS 2D03 or 2E03, and credit or registration in MATH 3C03 and registration in any Honours program in the Faculty of Science or any program in the Faculty of Engineering; or permission of the instructor
Alternatives with PHYSICS 3A03.

PHYSICS 3H03  INTERMEDIATE LABORATORY
Experiments in atomic physics, neutron physics, optics, spectroscopy, mechanics.
One lecture, one term; one lab (three hours); second term
Prerequisite: PHYSICS 2B06; and credit or registration in PHYSICS 2C03 or 3M03
Antirequisite: PHYSICS 3H04, 3H1C

PHYSICS 3H04  INTERMEDIATE LABORATORY (I)
Experiments in atomic physics, neutron physics, optics, spectroscopy, mechanics.
One lecture, one term; one lab (three hours), first term
Prerequisite: PHYSICS 2B06; and credit or registration in PHYSICS 2C03 or 3M03; and registration in Level III of Honours Physics Co-op or Honours Medical and Health Physics Co-op.
Antirequisite: PHYSICS 3H03, 3H04

PHYSICS 3H1C  INTERMEDIATE LABORATORY (II)
The continuation of PHYSICS 3H1C.
One lab (three hours); second term
Prerequisite: PHYSICS 3H1C

PHYSICS 3K03  THERMODYNAMICS AND STATISTICAL MECHANICS
The laws of thermodynamics, with emphasis on the mathematical structure of the theory; classical and quantum statistical mechanics.
Three lectures; one term
Prerequisite: MATH 2A03 (or 2X3), 2C03, PHYSICS 2H04; or registration in Honours Mathematics and Physics

PHYSICS 3K06  QUANTUM MECHANICS I
Quantum physics in 1D and 3D systems, with applications including the hydrogen atom.
Three lectures; one term
Prerequisite: MATH 3C03 and either PHYSICS 2C03 or 3M03; or registration in Honours Mathematics and Physics

PHYSICS 3L03  PHYSICAL OPTICS
Interference; Fraunhofer and Fresnel diffraction; Maxwell’s equations and the electromagnetic character of light; polarization and double refraction; interference of polarized light; selected topics in modern optics.
Three lectures; one term
Prerequisite: One of MATH 2A03, 2B04 or 2X3; and MATH 2C03 or 2P04; and either PHYSICS 2B06 or both ENG PHYS 2A04 (or 2A03) and 2E04

PHYSICS 3P03  SOFT CONDENSED MATTER PHYSICS
Soft materials include polymers, liquid crystals, surfactants and colloids. The course will cover structure, dynamics, phase transitions and self-assembly, and discuss applications and links to the life sciences.
Three lectures; first term
Prerequisite: CHEM 2R03 or PHYSICS 2H04

PHYSICS 4A03  INQUIRY IN PHYSICS
Independent study of the scientific literature, including the preparation of seminars and reports on assigned topics.
Two lectures or seminars; two terms
Prerequisite: Registration in a program in which PHYSICS 4A03 is required or is a specified option
Antirequisite: MED PHYS 4A03, 4A11, 4A21, PHYSICS 4A11

PHYSICS 4A11  INQUIRY IN PHYSICS (I)
Independent study of the scientific literature, including the preparation of seminars and reports on assigned topics.
Two lectures or seminars; first term
Prerequisite: Registration in Level IV of Honours Physics Co-op
Antirequisite: MED PHYS 4A03, PHYSICS 4A03
PHYSICS 4A22: INQUIRY IN PHYSICS (II)
The continuation of PHYSICS 4A1.
Two lectures or seminars; second term
Prerequisite: PHYSICS 4A1.

PHYSICS 4B03: ELECTROMAGNETIC THEORY
Potential theory, electrostatics and magnetostatics in matter, electrodynamics, electromagnetic waves and wave guides.
Two lectures; one term
Prerequisite: MATH 3D03 and either PHYSICS 2B05 or both ENG PHYS 2A04 (or 2A03) and 2E04, or registration in Honours Mathematics and Physics.
Antirequisite: PHYSICS 4B04

PHYSICS 4D06: DIGITAL LOGIC AND COMPUTER SYSTEMS
The design and use of digital logic systems and their application to data acquisition and control techniques. The project-oriented laboratory involves both hardware and software.
Two lectures, one lab (three hours); two terms
Prerequisite: PHYSICS 2B06; or ENG PHYS 2A04 (or 2A03) and 2E04
Antirequisite: COMP ENG 3D4J, PHYSICS 4DA3, 4DB3

PHYSICS 4D03: DIGITAL LOGIC AND COMPUTER SYSTEMS I
The design and use of digital logic systems and their application to data acquisition and control techniques. The project-oriented laboratory involves both hardware and software.
Two lectures, one lab (three hours); first term
Prerequisite: PHYSICS 2B06; or ENG PHYS 2A04 (or 2A03) and 2E04
Antirequisite: COMP ENG 3D34, PHYSICS 4D06

PHYSICS 4E03: NUCLEAR PHYSICS
Nuclear masses and stability; radioactivity and nuclear reactions; elementary nuclear models.
Three lectures; one term
Prerequisite: PHYSICS 3M3

PHYSICS 4F03: QUANTUM MECHANICS II
Advanced quantum mechanics with applications such as scattering, perturbation theory and the variational method.
Three lectures; one term
Prerequisite: MATH 3D03, PHYSICS 3M3; or registration in Honours Mathematics and Physics.

PHYSICS 4G03: COMPUTATIONAL PHYSICS
A course using computers to solve selected problems in physics. The emphasis is on applying computational methods to physics, rather than numerical methods or computer programming.
One lab (three hours); one term
Prerequisite: PHYSICS 2G03, 3M3

PHYSICS 4H03: SOLID STATE PHYSICS
Crystal structure and bonding; lattice vibrations; electron energy bands; metals and semiconductors; magnetism.
Three lectures; one term
Prerequisite: PHYSICS 3M3 or registration in Level IV of an Honours Medical and Health Physics program

PHYSICS 4I03: LITERATURE REVIEW
A directed reading and review of the literature in any field of physics or astronomy, associated with a faculty member's research area. A report will be required. Students in the Mathematics and Physics program may be supervised by a faculty member in the Department of Mathematics and Statistics. Occasional tutorial (2 hours), one term
Prerequisite: Registration in Level IV of Honours Mathematics and Physics or any Honours Physics program; and permission of the Chair of the Department

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

PHYSICS 4P06: SENIOR RESEARCH PROJECT
An experimental or theoretical project to be carried out under the supervision of a faculty member, and a report will be required. Students registered in the Mathematics and Physics program may be supervised by a faculty member in the Department of Mathematics and Statistics. One occasional tutorial (two hours); two terms
Prerequisite: Registration in Level IV of any Honours Physics or the Honours Mathematics and Physics program; and a CA of at least 9.0; and permission of the Chair of the Department
Antirequisite: PHYSICS 4Q03, 4Q04

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
3. All students are encouraged to seek advice from members of the Department in developing a program of study. All Honours students are strongly advised to discuss their program with an undergraduate advisor to ensure that it meets Departmental requirements.

4. POL SCI 2006 (previously 2F06) and 2NO are required for students in Honours Political Science programs. These two courses are recommended for students in B.A. programs.

5. Students should be alerted to those Level II and III courses that are required to qualify for a number of Level IV courses. Students who wish to enter courses but who lack the necessary prerequisites must obtain the permission of the instructor.

6. Some Level III courses do not have course prerequisites. However, students without related Level II courses should contact one of the Department's undergraduate advisors or the course instructor to determine whether they have the appropriate academic background for any specific Level III course.

7. Admission to Level IV limited enrolment courses is by preregistration preferential ballot. Permission from the Department of Political Science is required before students can register in any Level IV Political Science course. POL SCI 4206 requires written permission from the faculty member supervising the Honours Essay. Permission to take all other Level IV courses will be granted based on a preferential ballot which all full- and part-time students are required to fill out and submit to the Department of Political Science (Kenneth Taylor Hall, Room 527) no later than 15 March, 2008. Priority for all Level IV courses will be given to students registered in Level IV of any Honours Political Science program. Ballots may be picked up from the Department of Political Science in mid-January, or will be available on the Department's web site.

### Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POL SCI 1G06</td>
<td>POLITICAL SCIENCES</td>
<td>An introduction to the study of politics, emphasizing critical discussion of issues such as: social conflict, prospects for democracy, citizen's rights and responsibilities and Canada's future as a state and its role in the world. Antirequisite: POL SCI 1B03, 1C03, 2G06</td>
</tr>
<tr>
<td>POL SCI 2A06</td>
<td>COMPARATIVE POLITICS</td>
<td>An introduction to comparative politics with emphasis on the different forms of government in a number of selected countries including Canada. Three hours (lectures and tutorials); two terms</td>
</tr>
<tr>
<td>POL SCI 2B03</td>
<td>U.S. POLITICS</td>
<td>An examination of the development and functioning of the American political system including institutions, processes, and public participation. Three hours (lectures and tutorials); one term Antirequisite: POL SCI 2B06</td>
</tr>
<tr>
<td>POL SCI 2B03</td>
<td>U.S. FOREIGN POLICY</td>
<td>An examination of the development as well as theories and practice of American foreign policy. Three hours (lectures and tutorials); one term Not open to students with credit or registration in POL SCI 3I03 if the topic was U.S. Foreign Policy</td>
</tr>
<tr>
<td>POL SCI 2C03</td>
<td>FORCE AND FEAR</td>
<td>This course examines the use of state force as a means of addressing and instilling fear in North America and the United Kingdom. Three hours (lectures and tutorials); one term</td>
</tr>
<tr>
<td>POL SCI 2D03</td>
<td>CANADIAN CITIZENSHIP: INSTITUTIONAL FOUNDATIONS</td>
<td>An introduction to institutions delimiting the practice of citizenship in Canada and of the political values they embody. Three hours (lectures and tutorials); one term Antirequisite: POL SCI 2K03</td>
</tr>
<tr>
<td>POL SCI 2D03</td>
<td>PARTISANSHIP AND ELITIST POLITICS IN CANADA</td>
<td>An examination of the changing impact of citizen participation and of elitist politics on major Canadian political institutions and on the overall performance of the Canadian political system. Three hours (lectures and tutorials); one term Antirequisite: POL SCI 3D03, 3D06</td>
</tr>
<tr>
<td>POL SCI 2F03</td>
<td>POLITICS, POWER AND INFLUENCE IN CANADA</td>
<td>This course analyzes how power and whose interests get translated into public policies in Canada, including issues of inequality, immigration and citizenship, and representation by parties, interest groups and social movements. Three hours (lectures and tutorials); one term</td>
</tr>
<tr>
<td>POL SCI 2H03</td>
<td>GLOBALIZATION AND THE STATE</td>
<td>An overview of the impact that globalization has had on the powers of the state and an assessment of how states have tried to preserve their authority in the face of globalization. Three hours (lectures and tutorials); one term</td>
</tr>
<tr>
<td>POL SCI 2I03</td>
<td>GLOBAL POLITICS</td>
<td>A study of institutions and processes of the international political system. Three hours (lectures and tutorials); one term Antirequisite: POL SCI 2E06</td>
</tr>
<tr>
<td>POL SCI 2J03</td>
<td>GLOBAL POLITICAL ECONOMY</td>
<td>A study of institutions and processes of the international political economy. Three hours (lectures and tutorials); one term</td>
</tr>
<tr>
<td>POL SCI 2L03</td>
<td>BUREAUCRACY IN CANADIAN POLITICS</td>
<td>An introduction to the study of political theory that includes Classical Greek thought, early modern natural right theory and contemporary political theory. Three hours (lectures and tutorials); two terms (See Note 4 above.)</td>
</tr>
<tr>
<td>POL SCI 2X03</td>
<td>POLITICS OF THE THIRD WORLD</td>
<td>An examination of major theoretical approaches to the study of development and underdevelopment, such as modernization, politics of order, dependency and modes of production. Three hours (lectures and tutorials); one term Antirequisite: POL SCI 3X03</td>
</tr>
<tr>
<td>POL SCI 2Z03</td>
<td>POLITICS AND THE MEDIA</td>
<td>A survey of international relations from 1945 focusing on the various approaches to international politics. Three hours; one term Prerequisite: Registration in Level III or above. Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)</td>
</tr>
<tr>
<td>POL SCI 3B03</td>
<td>POLITICAL COMMUNICATION</td>
<td>The relationship between politics and the media is analyzed in terms of issues such as: political news coverage, electioneering, political marketing, policy formation and publicity, and agenda setting and public opinion. Three hours; one term Prerequisite: Registration in a Communication Studies or Political Science program Cross-list: CMST 3D03</td>
</tr>
<tr>
<td>POL SCI 3A03</td>
<td>INTERNATIONAL POLITICS IN THE POSTWAR PERIOD</td>
<td>An introduction to political theory that includes Classical Greek thought, early modern natural right theory and contemporary political theory. Three hours (lectures and tutorials); two terms (See Note 4 above.)</td>
</tr>
<tr>
<td>POL SCI 3A03</td>
<td>POLITICAL AUTHORITY: 20TH CENTURY POLITICAL THEORY</td>
<td>An overview of the impact that globalization has had on the powers of the state and an assessment of how states have tried to preserve their authority in the face of globalization. Three hours (lectures and tutorials); one term</td>
</tr>
<tr>
<td>POL SCI 3D03</td>
<td>POLITICS OF RESTRUCTURING: THE STATE AND THE ECONOMY</td>
<td>An examination of the political and economic restructuring in selected industrialized countries during the past decade; major issues include privatization, labour policies, and trade agreements. Three hours; one term Prerequisite: Registration in Level III or above. (See Note 7 above.)</td>
</tr>
</tbody>
</table>
POL SCI 3E03 THE POLITICS OF INTERNATIONAL ECONOMIC ORGANIZATIONS
An analysis of the structure, function and politics of the principal multilateral organizations governing the postwar international economy.
Three lectures; one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)

POL SCI 3EE3 INTERNATIONAL RELATIONS: NORTH-SOUTH
An examination of recent North-South relations concentrating on such issues as commodity trade, protectionism, the debt crisis and negotiations over a new international economic order.
Three lectures; one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)

POL SCI 3F03 CONTEMPORARY SOCIAL MOVEMENTS AND POPULAR COALITIONS
An examination of selected social movements and popular coalitions, primarily in Canada and the United States. Movements may include the labour, environmental, peace, feminist, indigenous rights, and/or religious fundamentalist movements.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)

POL SCI 3G93 ETHNICITY AND MULTICULTURALISM: THEORY AND PRACTICE
An examination of ethnicity, multiculturalism and citizenship in theoretical and comparative perspectives, principally in industrially advanced societies.
Three hours (lectures and discussion); one term
Prerequisite: Six units of Political Science and registration in Level III or above. (See Note 7 above.)
Not open to students with credit in POL SCI 3WW3 if the topic was Ethnicity and Multiculturalism: Theory and Practice.

POL SCI 3G93 FEDERALISM: THEORETICAL, CONSTITUTIONAL AND INSTITUTIONAL ISSUES
An analysis of the constitutional framework, evolution, and structure of the federal system in Canada and/or other Western countries.
Three hours; one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)

POL SCI 3H93 INTERGOVERNMENTAL POLICY ISSUES IN CANADA
A survey of the policy processes and substantive policy concerns in the operation of the federal system of Canada, including economic, social and ethno-cultural policy areas.
Three hours; one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)

POL SCI 3I03 TOPICS IN AMERICAN POLITICS
The study of a central component of the U.S. political system.
Three hours; one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)
POL SCI 3I03 may be repeated, if on a different topic, to a total of six units.

POL SCI 3J93 PROVINCIAL POLITICS IN CANADA
A study of the development, nature and functioning of the political systems of the Canadian provinces.
Three hours; one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)

POL SCI 3K93 GENOCIDE: SOCIOLOGICAL AND POLITICAL PERSPECTIVES
An examination of genocide and other extreme crimes against humanity.
Three hours; one term
Prerequisite: Registration in Level III or above
Cross-list: SOCIOLOGICAL AND POPULAR STUDIES 3K93
Antirequisite: SOC SCI 2C03
Priority will be given to students registered in a Political Science or Sociology program. (See Notes 6 and 7 above.)

POL SCI 3L93 DEVELOPMENT AND PUBLIC POLICY
An examination of critical issues in public policy as they impact on the process of development.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above
Not open to students with credit in POL SCI 3YY3 if the topic was Development and Public Policy.

POL SCI 3M03 HEALTH POLICY IN A CHANGING WORLD
This course examines major models of health care and policy systems, and the key ideas and instruments that underlie health policy in selected countries such as Canada.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above of a Political Science or Health Studies program
Cross-list: HEALTHST 3M03
Not open to students with credit in POL SCI 3YY3 if the topic was Health Policy in a Changing World.

POL SCI 3M93 THE INTERNET AND PUBLIC LIFE
This course examines how the Internet and other digital media may be reshaping political and personal relationships and altering the nature of the public sphere.
Three hours; one term
Prerequisite: One of CMST 2203 or POL SCI 2203; and registration in Level III or above
Cross-list: CMST 3M93

POL SCI 3N06 RESEARCH METHODS, STATISTICS AND POLITICAL ANALYSIS
An introduction to the study of concept and theory formation, and an overview of the scope, research methods and statistical techniques of political science.
Three hours; two terms
Prerequisite: Registration in Level III or above
Antirequisite: POL SCI 2F06
(See Notes 4 and 7 above.)

POL SCI 3N93 PUBLIC LAW
A study of the nature and function of public law, with special reference to constitutional law and judicial behaviour.
Three hours; two terms
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)

POL SCI 3P03 THE POLITICAL ECONOMY OF REGIONAL INTEGRATION
An examination of regional integration in Europe, the Americas and Asia-Pacific and the implications for global politics and global economics.
Three hours; one term
Prerequisite: POL SCI 2203; or POL SCI 2103 and 2103

POL SCI 3Q03 THE CAUSES OF WAR
An examination of theoretical perspectives on the causes of war and conditions for peace between and within political communities.
Three hours; one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)

POL SCI 3Q93 WEAPONS AND WAR IN THE DIGITAL AGE
An examination of the social and political implications of new military technologies, new ways of war, and the implications of both for the future of arms control and disarmament.
Three hours (lectures and discussion); one term
Prerequisite: POL SCI 2103

POL SCI 3R93 LOCAL GOVERNMENT AND POLITICS IN CANADA
A description of the laws and institutions of local government; examination of relationships with citizens and other levels of government; the dynamics of local politics.
Three hours; one term
Prerequisite: Registration in Level III or above
Priority will be given to students registered in a Political Science program. (See Notes 6 and 7 above.)
POL SCI 3SP3  SERVICE DELIVERY IN THE MODERN CANADIAN CITY: PLACEMENT EXPERIENCE
A civic placement providing students the opportunity to gain valuable experience and insight into the municipal administration and political process. Provides the essential links between classroom knowledge and civic internship practice. Students may be involved in academic placements within the community. Placement experience requires a minimum of 80 hours; one term
Prerequisite: Credit or registration in POL SCI 3SP3; and permission of the instructor

POL SCI 3T03  PROBLEMS OF POSTCOMMUNIST TRANSITION
An examination of the legacy of communism and system transformation in selected countries, including Poland and the successor states of Czechoslovakia and the former Yugoslavia.
Three hours; one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)
Antirequisite: POL SCI 3M06, 4J06

POL SCI 3U03  POLITICS IN EUROPE
Politics, government and policies of the European Union and/or selected countries within Europe.
Three hours; one term
Prerequisite: Registration in Level III or above

POL SCI 3V03  WOMEN AND POLITICAL
An introduction to a broad range of theoretical and empirical approaches to the study of women and politics, including feminist theory and the history and evolution of the organized women's movement.
Three hours; one term
Prerequisite: Registration in Level III or above

POL SCI 3Y03  DEMOCRATIZATION AND HUMAN RIGHTS
A review of the process of democratization and the forces that drive it and an assessment of the place of human rights in emerging democracies.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)

POL SCI 3Y3Y3  TOPICS IN PUBLIC POLICY
An examination of emerging theoretical and substantive issues in the field of public policy studies.
Three hours; one term
Prerequisite: Registration in Level III or above

POL SCI 3Z03  CANADIAN PUBLIC SECTOR: IMPLEMENTATION OF POLICIES
The organizational arrangements for implementing public policies in Canada, including an assessment of their efficiency, effectiveness and accountability.
Three hours; one term
Prerequisite: Registration in Level III or above. (See Note 7 above.)
Antirequisite: POL SCI 3Z06

POL SCI 4A03  SOCIAL POLICY AND THE AGING POPULATION
Critical examination of the social and economic implications of the aging population and the nature of social welfare policy with respect to the elderly.
Three hours (problem-based tutorial); one term
Prerequisite: Registration in Level IV of an Honours Political Science program and permission of the Department. (See Note 8 above.)
Antirequisite: GERONTOL 4S03, SOC WORK 4A03, 4L03, 4V03

POL SCI 4A6  PROBLEMS IN AMERICAN POLITICS
An examination in depth of one of the important dimensions of the American political system.
Three hours (seminar); two terms
Prerequisite: One course in American or Comparative Politics and permission of the Department

POL SCI 4D06  HUMAN RIGHTS AND INTERNATIONAL POLITICS
An examination of the concept of human rights as reflected in international declarations and practices.
Three hours (seminar); two terms
Prerequisite: One of POL SCI 2E06, 2J03, 2L03, 3Y03; and permission of the Department
Antirequisite: POL SCI 4D03, 4F06

POL SCI 4E06  ISSUES IN LIBERAL-DEMOCRATIC THEORY
An analysis of liberal and liberal-democratic approaches to a select issue, such as justice, religion, education, political authority or community.
Three hours (seminar); two terms
Prerequisite: Registration in Level IV of any Honours program; and a course in Political Theory; and permission of the Department
Not open to students with credit in POL SCI 4U06 PROBLEMS OF POLITICAL PHILOSOPHY if taken in 1995-1996.

POL SCI 4G06  POLITICS OF PUBLIC POLICY
An examination of the political causes and mechanisms that shape public policies, such as political parties, interest groups, policy legacies, and how they influence the adoption of policies on challenging issues as well as account for cross-national differences.
Three hours (seminar); two terms
Prerequisite: Six units of Comparative Politics and permission of the Department

POL SCI 4L03  THE POLITICS OF CHANGE IN SOCIAL WELFARE
An examination of how social welfare policy establishes the boundary between public and private roles, and how the boundary changes.
Three hours (seminar); one term
Prerequisite: HEALTHST 3M03 or POL SCI 3M03; and registration in Level IV of an Honours Health Studies or Political Science program; and permission of the Department
Cross-list: HEALTHST 4L03

POL SCI 4M06  TOPICS IN INTERNATIONAL POLITICS
An examination of selected topics in international politics and foreign policy.
Three hours (seminar); two terms
Prerequisite: POL SCI 2103 and 2J03 (or POL SCI 2E06); and permission of the Department

POL SCI 4M6  TOPICS IN INTERNATIONAL POLITICAL ECONOMY
An examination of selected topics in the international political economy.
Three hours (seminar); two terms
Prerequisite: POL SCI 2103 and 2J03 (or POL SCI 2E06); and permission of the Department

POL SCI 4Q06  CANADIAN PUBLIC POLICY
An examination of the patterns of public policy in Canada and a critical evaluation of several types of explanation.
Three hours (seminar); two terms
Prerequisite: POL SCI 1G06 or 2G06; and registration in Level IV of any honours program; and permission of the Department

POL SCI 4P06  TOPICS IN POLITICAL THEORY
An examination of selected topics in political theory.
Three hours (seminar); two terms
Prerequisite: POL SCI 2006 and permission of the Department
Antirequisite: POL SCI 4B06

POL SCI 4Q06  POLITICS AND SOCIETY IN LATIN AMERICA
An examination of Latin America's longstanding hegemonic crisis and corresponding ideologies such as populism, corporatism, and authoritarianism.
Three hours (seminar); two terms
Prerequisite: POL SCI 2X03 and permission of the Department
POL SCI 4R06 INNOVATION AND ACCOUNTABILITY IN PUBLIC SECTOR GOVERNANCE

An examination of the theory and practice of public sector governance with emphases on Canadian, comparative, and international organizations. Three hours (seminar); two terms
Prerequisite: One of POL SCI 3L03, 3Z23, and permission of the Department.
(See Note 8 above.)

POL SCI 4T06 TOPICS IN CANADIAN POLITICS

An examination of major issues in contemporary Canadian politics. Three hours (seminar); two terms
Prerequisite: POL SCI 1G05 or 2G08; and permission of the Department.
(See Note 8 above.)

POL SCI 4Z06 HONOURS ESSAY

A major research paper, supervised by a faculty member. The subject matter is to be different from that covered in 3U03, if the student is registered or has credit in that course.
Prerequisite: Registration in Level IV of an Honours Political Science program and written permission of the faculty member supervising the student's Honour Essay.

POL SCI 4Z26 EXPERIENTIAL LEARNING IN RESEARCH

A major collaborative research project supervised by a faculty member and involving a unique course of instruction.
Prerequisite: Registration in Level IV of an Honours Political Science program and written permission of the faculty member supervising the research.

Not open to students with credit in POL SCI 3U03 or 4Z06 if on a similar topic.

PROCESS AUTOMATION TECHNOLOGY
(SEE TECHNOLOGY, PROCESS AUTOMATION TECHNOLOGY)

PSYCHOLOGY, NEUROSCIENCE AND BEHAVIOUR

WEB ADDRESS: http://www.mcmaster.ca/psychology
Psychology Building, Room 102
Ex. 23000

Faculty as of January 15, 2007

Chair
Betty A. Levy

Associate Chairs
Bruce Milliken/Graduate Studies
Louis Schmidt/Undergraduate Studies
Tracy Vaillancourt/Undergraduate Studies

Professors
Suzanna Becker/B.A., M.Sc. (Queen's), Ph.D. (Toronto)
Patrick Bennett/B.Sc. (Trent), Ph.D. (California-Berkley)/Senior Canada Research Chair
Martin Daly/B.A., M.A. (McGill), Ph.D. (Toronto)
Denys de Catanzaro/B.A., M.A. (Carleton), Ph.D. (British Columbia)
Betty A. Levy/B.A. (Dalhousie), M.A., Ph.D. (Toronto)
Terri L. Lewis/B.A., Ph.D. (McMaster)
Daphne M. Maurer/B.A. (Swarthmore), M.A. (Pennsylvania), Ph.D. (Minnesota)
Bruce Milliken/B.A., Ph.D. (Waterloo)
Kathryn M. Murphy/B.A. (Western Ontario), M.A., Ph.D. (Dalhousie)
Ronald J. Racine/B.Sc., M.Sc. Ph.D. (McGill)
Allison Sekuler/B.A. (Pomona), Ph.D. (California-Berkley)/Canada Research Chair
Laurel J. Trainor/B.Mus., M.A., Ph.D. (Toronto)

Adjunct Professors
Mertlice M. Clark/B.A., Ph.D. (McMaster)
Ivan Kiss/B.Sc. (Toronto), M.A., Ph.D. (Concordia)
Bruce A. Linder/B.E.S. (Minnesota), Ph.D. (McMaster)

Associate Professors
Sigal Baishna/B.Sc. (Toronto), Ph.D. (Cambridge)
Richard B. Day/B.A. (Massachusetts), M.A. (Iowa), Ph.D. (McMaster)
Daniel Goldreich/B.Sc. (California-San Diego), Ph.D. (California-San Francisco)
Louis A. Schmidt/B.A. (Maryland), M.S. (Baltimore), Ph.D. (Maryland)
Judith M. Sheden/ B.Sc. (Alberta), M.S., Ph.D. (Pittsburgh)
David I. Shore/B.Sc. (McMaster), M.A., Ph.D. (British Columbia)
Hongjin Sun/B.Sc., M.Sc. (Peking), M.A. (Western Ontario), Ph.D. (Queen's)

Assistant Professors
Reuven Dukas/B.Sc. (Jerusalem), Ph.D. (North Carolina State)
Paul Faure/B.Sc., M.Sc. (Calgary), Ph.D. (Cornell)
Deda C. Gillespie/B.Sc. (Yale), Ph.D. (California-San Francisco)
Karin Humphreys/B.A. (Queenland), A.M., Ph.D. (Illinois)
Anneke Othof/B.A., M.A. (Queen's), Ph.D. (Western Ontario)
Mel D. Rutherford/B.Sc. (Yale), Ph.D. (California-Santa Barbara)
Tracy Vaillancourt/B.A., M.A., Ph.D. (British Columbia)

Associate Members
Ian C. Bruce (Electrical and Computer Engineering), B.Eng., Ph.D. (Melbourne)
Charles E. Cunningham/Psychiatry and Behavioural Neurosciences) B.A. (California State), M.A. (San Diego State), Ph.D. (The American University)
Kevin W. Eval (Clinical Epidemiology and Biostatistics), B.Sc., Ph.D. (McMaster)
Eleni Hapidou/Psychiatry and Behavioural Neurosciences) B.A. (The American College of Greece), M.A. (New Brunswick), Ph.D. (McMaster)
Joel P. Hunder/Psychiatry and Behavioural Neurosciences) B.A., A.M. (McMaster), Ph.D. (Western Ontario)
Eliane Lipman/Psychiatry and Behavioural Neurosciences) B.Sc. (Western Ontario), M.D., M.Sc. (McMaster)
Harriet L. MacMillan/Psychiatry and Behavioural Neurosciences) M.D. (Queen's), M.Sc. (McMaster), F.R.C.P.S.
William Mahoney/Pediatrics) M.D. (McMaster)
Catherine L. Manconi/Psychiatry and Behavioural Neurosciences) B.Sc., M.Sc., M.D. (Western Ontario)
Alison G. Niccols/Psychiatry and Behavioural Neurosciences) B.A., M.A., Ph.D. (York)
Geoff R. Noman/Clinical Epidemiology and Biostatistics) B.Sc. (Manitoba), M.A. (Michigan State), Ph.D. (McMaster)
Christopher David Rolfo/Biology) B.Sc., M.Sc. (Guelph), Ph.D. (British Columbia)
Patricia L. Rosebush/Psychiatry) B.Sc.N., M.Sc.N. (Toronto), M.D. (McMaster), F.R.C.P.C.
Alexandre Sevigny/Communication Studies and Multimedia; French) B.A. (York), M.A., Ph.D. (Toronto)
William Sulis/Psychiatry and Behavioural Neurosciences) B.Sc. (Carleton), M.D., M.A., Ph.D. (Western Ontario), F.R.C.P.C.
Henry Szechmann/Biomedical Sciences) B.Sc., Ph.D. (Pittsburgh)
Larry Tuffi/Psychiatry and Behavioural Neurosciences) B.Sc., Ph.D. (McMaster)
Michael A. Van Ameringen/Psychiatry and Behavioural Neurosciences) B.Sc., M.D. (McMaster)

Department Notes:
1. The University reserves the right to limit enrolment in any course. Where priorities have to be established, first consideration will be given to Honours B.Sc. and Honours B.A. Psychology students.
2. The Psychology, Neuroscience and Behaviour Department pre-registration ballot will be done in two phases. The first phase will include the thesis courses (PSYCH 4D09, 4D09), and the Individual Study courses (PSYCH 2Q03, 3Q03, 3Q03, 4Q03, 4Q03). Students wishing to take these courses must complete and submit a ballot by mid February. Students will be informed of the outcome of the first phase by mid March. The second phase will include lab courses (PSYCH 3EE3, 3L03, 3L03, 3M03, 3Q03, 3V03) and limited enrolment courses (PSYCH 3BN3, 4BN3, 4CN3, 4CN3, 4FO3, 4FO3, 4FO3). Students wishing to take these courses must complete and submit a ballot by mid April. Specific dates will be announced during the fall term. Ballots will be obtained from the Psychology, Neuroscience and Behaviour Department web site at http://www.mcmaster.ca/psychology. Priority will be given to students registered in Honours Psychology and Combined Honours Psychology programs.
Courses

If no prerequisite is listed, the course is open.

PSYCH 1A03  INTRODUCTION TO EXPERIMENTAL PSYCHOLOGY
This course introduces experimental psychology, and includes basic research methods in psychology, the relationship between the brain and behaviour, sensation and perception, conditioning and learning, and memory and reasoning.

Three hours (lectures and tutorials); one term
Antirequisite: PSYCH 1A05
Not open to students registered in the Bachelor of Health Sciences (Honours) program or the B.Sc.N. (D) Stream (Mohawk College and Conestoga College site).

PSYCH 1A03  THE PSYCHOLOGY OF INTERPERSONAL BEHAVIOUR
A discussion of phenomena and theory in areas of psychology related to interpersonal behaviour. Topics include child development, personality, abnormal psychology, social psychology, and sociobiology.

Three hours (lectures and tutorials); one term
Prerequisite: PSYCH 1A03; or registration in the Bachelor of Health Sciences (Honours) program or the Bachelor of Health Sciences (Honours) program.

Antirequisite: PSYCH 1A06
Not open to students registered in the Bachelor of Health Sciences (Honours) program or the B.Sc.N. (D) Stream (Mohawk College and Conestoga College site).

PSYCH 2A03  SURVEY OF DEVELOPMENTAL PSYCHOLOGY
A general survey of theories and mechanisms of development, illustrated through examples from neural, perceptual, cognitive, social and emotional development. This is a general survey course and is an antirequisite for the advanced developmental courses. Students wishing to do further work in developmental psychology are referred to PSYCH 3G03.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program.

PSYCH 2A03  PERSONALITY
An introduction to the scientific study of personality which will consider theory, assessment and research in five approaches to personality: psychodynamic, biological, trait, behavioural, and humanistic.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program.

PSYCH 2B03  INTRODUCTION TO SOCIAL PSYCHOLOGY
An overview of the theory in areas such as social perception, attitude and attitude change, social influence, interpersonal attraction, altruism, aggression, small group processes.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program.

PSYCH 2D03  NEUROPSYCHOLOGY
Neural organization and the relation between human brain function and behaviour.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program.

PSYCH 2E03  SENSORY PROCESSES
General processes mediating sensation and perception. Topics include neural principles of sensory pathways, the measurement of perception and the role of sensory processes in behaviour.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology, the Bachelor of Health Sciences (Honours) program, or the Honours Linguistic Cognitive Science program.

Prerequisite (Beginning 2008-2009): PSYCH 1A03, 1AA3 with a grade of at least C+ in each, and one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in a program in Arts & Science, Psychology or the Bachelor of Health Sciences (Honours) program; or credit or registration in one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in the Honours Linguistic Cognitive Science program.

Antirequisite: PSYCH 2R3, STATS 2D03, 2R06

PSYCH 2R3  RESEARCH DESIGN AND STATISTICS FOR BEHAVIOURAL SCIENCES I
Research methods, experimental design, and statistics: Topics include parametric and nonparametric techniques; probability; hypothesis testing; central limit theorem; effect size; power; t-tests; regression.

Three lectures; one tutorial; one term
Prerequisite: Registration in Honours Biology (Biodiversity Specialization), Honours Biology and Pharmacology, the Bachelor of Health Sciences (Honours), Honours Linguistic Cognitive Science or any Honours Psychology program.

Antirequisite: PSYCH 2R3, STATS 2D03, 2R06

PSYCH 2S03  PSYCHOLOGY AND AGING
A survey of changes in behaviour and cognitive functioning in the elderly.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3

Antirequisite: GERONTOL 3D03, PSYCH 3G03

PSYCH 2T03  ANIMAL BEHAVIOUR
A discussion of the major classes of behaviour shared by most animals including humans. The course will integrate evolutionary analyses with an in-depth discussion of the genetic and cognitive mechanisms that generate behaviour.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3 and one of BIOLOGY 1A03, 1AA3, 1K03; or registration in Honours Biology Psychology and the Bachelor of Health Sciences (Honours) program.

Prerequisite (Beginning 2008-2009): PSYCH 1A03, 1AA3 with a grade of at least C+ in each, and BIOLOGY 1A03 or 1K03 and registration in a program in Arts & Science, Psychology or the Bachelor of Health Sciences (Honours) program; or credit or registration in one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in the Honours Linguistic Cognitive Science program.

Antirequisite: PSYCH 2T03, 3R03

PSYCH 2F03  FUNDAMENTALS OF NEUROSCIENCE
Fundamentals of nervous system and endocrine function in humans and animals, including neurophysiology, neural transmission and neuroanatomy.

Prerequisite: PSYCH 1A03, 1AA3, and credit or concurrent registration in BIOLOGY 1A03 or 1K03; or registration in Honours Biology Psychology or the Bachelor of Health Sciences (Honours) program; or credit or registration in BIOLOGY 1A03 or 1K03 and registration in the Honours Linguistic Cognitive Science program.

Prerequisite (Beginning 2008-2009): PSYCH 1A03, 1AA3 with a grade of at least C+ in each, and BIOLOGY 1A03, 1AA3 or 1K03 and registration in a program in Arts & Science, Psychology or the Faculty of Science; or registration in the Bachelor of Health Sciences (Honours) program; or credit or registration in BIOLOGY 1A03, 1AA3, and registration in the Honours Linguistic Cognitive Science program.

PSYCH 2H03  HUMAN LEARNING AND COGNITION
The psychological study of knowledge and how people use it. Topics include pattern recognition, remembering and reasoning.

Three lectures; one tutorial; one term
Prerequisite: PSYCH 1A03, 1AA3; or registration in Honours Biology and Psychology or the Bachelor of Health Sciences (Honours) program or the Honours Linguistic Cognitive Science program.

Prerequisite (Beginning 2008-2009): PSYCH 1A03, 1AA3 with a grade of at least C+ in each, and one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in a program in Arts & Science, Psychology or the Faculty of Science; or registration in the Bachelor of Health Sciences (Honours) program; or credit or registration in one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in the Honours Linguistic Cognitive Science program.

PSYCH 2I03  COGNITION AND EDUCATION
Applications of research in cognition to problems in education.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3

PSYCH 2Q03  RESEARCH PRACTICUM
Independent research practicum that provides students the opportunity to participate in experimental psychology projects in a research laboratory under the supervision of a faculty member.

One lab; one or two terms
Prerequisite: A grade of at least B in PSYCH 1A03; and registration in Level II of an Honours Psychology program; and permission of the course coordinator.

Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 2R3  RESEARCH DESIGN AND STATISTICS FOR BEHAVIOURAL SCIENCES II
Advanced research methods, experimental design, and statistics: Advanced topics include the general linear model; multiple regression; analysis of variance; repeated measures; data transformations; factor analysis.

Three lectures; one tutorial; one term
Prerequisite: Registration in Honours Biology (Biodiversity Specialization), Honours Biology and Pharmacology, the Bachelor of Health Sciences (Honours), Honours Linguistic Cognitive Science or any Honours Psychology program.

Antirequisite: PSYCH 2R3, STATS 2D03, 2R06

PSYCH 2R3  RESEARCH DESIGN AND STATISTICS FOR BEHAVIOURAL SCIENCES II
Advanced research methods, experimental design, and statistics: Advanced topics include the general linear model; multiple regression; analysis of variance; repeated measures; data transformations; factor analysis.

Three lectures; one tutorial; one term
Prerequisite: PSYCH 2R3

Antirequisite: PSYCH 2R3, STATS 2MB3, 2R06

PSYCH 2S03  PSYCHOLOGY AND AGING
A survey of changes in behaviour and cognitive functioning in the elderly.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3

Antirequisite: GERONTOL 3D03, PSYCH 3G03

PSYCH 2T03  ANIMAL BEHAVIOUR
A discussion of the major classes of behaviour shared by most animals including humans. The course will integrate evolutionary analyses with an in-depth discussion of the genetic and cognitive mechanisms that generate behaviour.

Three lectures; one term
Prerequisite: PSYCH 1A03, 1AA3 and one of BIOLOGY 1A03, 1AA3, 1K03; or registration in Honours Biology Psychology and the Bachelor of Health Sciences (Honours) program.

Prerequisite (Beginning 2008-2009): PSYCH 1A03, 1AA3 with a grade of at least C+ in each, and BIOLOGY 1A03 or 1K03 and registration in a program in Arts & Science, Psychology or the Faculty of Science; or registration in the Bachelor of Health Sciences (Honours) program; or credit or registration in one of BIOLOGY 1A03, 1AA3 or 1K03 and registration in the Honours Linguistic Cognitive Science program.

Antirequisite: PSYCH 2T03, 3R03
An introduction to the biology of hearing with an emphasis on fundamental auditory principles and underlying physiological mechanisms. Topics include physical acoustics, sound analysis, anatomy and physiology of mammalian auditory system, and perception and psychoacoustics.

Three lectures; one term

Prerequisite: One of BIOLOGY 2A03, PSYCH 2E03 or 2F03

**PSYCH 3A03**

**AUDITION**

Perception and cognition of music

The perception and neural basis of melody, harmony, rhythm and expectancy will be considered in relation to innate and experiential factors.

Three lectures; one term

Prerequisite: Registration in an Honours program and either PSYCH 2E03 or both PSYCH 1A03 and SCIENCE 2F03; or permission of the instructor.

**PSYCH 3B03**

**SPECIAL POPULATIONS**

Discusses selected topics related to normal and abnormal development in children, including behavioral affective, perceptual, and cognitive disorders and developmental disability.

Three lectures; one term

Prerequisite: PSYCH 3G03 or 3N03 and six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3; and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, SOC SCI 2J03, STAT 1A03, 1C03, 2D03

**PSYCH 3B33**

**PSYCHOLINGUISTICS**

This course discusses biological foundations of language and the way language is represented and processed in the brain (in norm and pathology). Special attention is paid to methods of psycho- and neurolinguistic research and to their connection with theoretical linguistics.

Three lectures (lectures and discussion); one term

Prerequisite: LINGUIST 3I03 or 3M03, or one of LINGUIST 1A03, 1AA3 or PSYCH 2H03, or permission of the Department

Cross-list: LINGUIST 3B03

Offered in alternate years.

Offered in 2007-2008.

This course is administered by the Department of Linguistics and Languages.

**PSYCH 3B03**

**COGNITIVE NEUROSCIENCE I**

An introduction to the behavioural neurosciences, which are aimed at understanding the neural basis of visual perception.

The evidence for biological and environmental influences on development are examined and the principles and mechanisms of development are illustrated through examples from neural, perceptual, cognitive, social and emotional development.

Three lectures; one term

Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1C03, 2D03

Prerequisite (Beginning 2008-2009): Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1C03, 2D03; and registration in an Honours program.

Antirequisite: PSYCH 2A03, 2AA3, 2S03, 3G03

**PSYCH 3H3**

**DEVELOPMENT DURING INFANCY**

An intensive examination of development during the first year of life, with an emphasis on perceptual development.

Three lectures; one term

Prerequisite: PSYCH 2E03, 3G03

**PSYCH 3I03**

**PRACTICA IN PSYCHOLOGY**

Supervised laboratory and field placements will be arranged for a maximum of 16 students each year. The placements may vary from year to year, but will include cognitive, language, perceptual, memory, neuropsychological and behavioural disorders. A 20 page final report must be submitted to the coordinator by April 1. Applications must be submitted to the coordinator by February 1 of the preceding academic year, with selection for placements announced by March 15.

Prerequisite: One of PSYCH 2RB3, 2RR3 or STATS 2MB3, and registration in Level III or IV of an Honours Psychology or Combined Honours Psychology program; permission of the coordinator. This course cannot be combined with any independent study course (PSYCH 3003, 3Q03, 4Q03, 4Q03, 4D06, 4D09) with the same supervisor.

Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

**PSYCH 3I13**

**COGNITIVE DEVELOPMENT**

The development of attention, concepts, memory, reasoning and language.

Three lectures; one term

Prerequisite: PSYCH 2H03, 3G03

**PSYCH 3J03**

**VISUAL NEUROSCIENCE**

Examination of the organization and function of the visual system aimed at understanding the neural basis of visual perception.

Three lectures; one term

Prerequisite: PSYCH 2E03; and one of PSYCH 2D03, 2F03 or 2H03

Prerequisite (Beginning 2008-2009): PSYCH 2E03; and BIOLOGY 3F03 or PSYCH 2F03; and registration in Level III or IV of an Honours program

Not offered in 2007-2008

**PSYCH 3JJ3**

**SOCIO-EMOTIONAL DEVELOPMENT**

Discusses historical and contemporary topics related to socio-emotional development from infancy to middle childhood, with an emphasis on the development of maladaptive social behaviours.

Three lectures; one term

Prerequisite: PSYCH 2C03, 3G03

**PSYCH 3K03**

**PSYCHOLOGICAL MEASUREMENT**

Theory of psychological testing and measurement. Topics include the statistical bases and assumptions of measurement, test validity and reliability and the measurement of human characteristics.

Three lectures; one term

Prerequisite: PSYCH 1A03, 1AA3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1C03, 2D03; or registration in Honours Biology and Psychology; or registration in the Bachelor of Health Sciences (Honours) program.

Prerequisite: PSYCH 3K03

**INTRODUCTION TO BAYESIAN INFERENCE**

This course introduces a sophisticated method for data analysis and guide to scientific reasoning, derived remarkably from a single, intuitive equation. Requires only basic mathematical background.

Three lectures; one term

Prerequisite: One of ECON 2B03, PSYCH 2RB3, 2R3 or STATS 2MB3

**PSYCH 3FA3**

**THE NEUROBIOLOGY OF LEARNING AND MEMORY**

Learning and memory mechanisms will be discussed from several perspectives ranging from cognitive neuroscience to synaptic physiology.

Three lectures; one term

Prerequisite: PSYCH 2D03 or 2F03

**PSYCH 3GG3**

**ESSENTIALS OF DEVELOPMENTAL PSYCHOLOGY**

This course concentrates on theories and mechanisms of development.

The evidence for biological and environmental influences on development are examined and the principles and mechanisms of development are illustrated through examples from neural, perceptual, cognitive, social and emotional development.

Three lectures; one term

Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1C03, 2D03

Prerequisite (Beginning 2008-2009): Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2TT3, and one of HTH SCI 1F03, 2A03, PSYCH 2RA3, STATS 1C03, 2D03; and registration in an Honours program.

Antirequisite: PSYCH 2A03, 2AA3, 2S03, 3G03
PSYCH 3L03  NEUROSCIENCE LABORATORY
Seminars and laboratory experience in current problems in neurobiology. One lab (three hours); one term
Prerequisite: One of PSYCH 2E03, 2F03, BIOLOGY 3P03; and registration in Level III or IV of an Honours program
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3L3  GENERAL EXPERIMENTAL PSYCHOLOGY LABORATORY
Working in research teams, students select a topic area, design an experiment based on background readings, obtain ethical approval, collect and analyze data, make oral presentations, and prepare written reports. One lecture, one lab (two hours); one term
Prerequisite: One of PSYCH 2RB3, 2RR3 or STATS 2MB3 and registration in an Honours Psychology program; or registration in Level III of the Honours Linguistic Cognitive Science program
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3M03  MOTIVATION AND EMOTION
Theory and data concerning human and nonhuman motivation and emotion, drawing on perspectives from evolution, physiology, learning, and culture. Three lectures; one term
Prerequisite: One of PSYCH 2F03, 2T03, 2TT3
Prerequisite (Beginning 2008-2009): PSYCH 2T03 or 2TT3; and PSYCH 2D03 or 2F03
Not open to students with credit or registration in PSYCH 3Y03 or 4Y03.

PSYCH 3M3  COGNITIVE NEUROSCIENCE LABORATORY
Working in groups, students will learn to conduct experiments in the field of cognitive neuroscience. Issues related to research design and scientific communication will be emphasized.
One lab (three hours); one term
Prerequisite: One of PSYCH 2RB3, 2RR3, STATS 2MB3; and one of PSYCH 2E03, 2F03, 2H03; and registration in Level III or IV of an Honours program
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3N03  ABNORMAL PSYCHOLOGY: FUNDAMENTALS AND MAJOR DISORDERS
Provides students with a current and comprehensive survey of psychopathology and the fundamentals of clinical psychology, including viewpoints on the nature of behavioural disorders and diagnostic systems.
Three lectures; one term
Prerequisite: Six units from PSYCH 2D03, 2E03, 2F03, 2H03, 2T03, 2TT3; or nine units of Psychology
Antirequisite: PSYCH 3NN3

PSYCH 3P3  PROBLEM SOLVING AND DECISION MAKING
Applications of psychology to understanding how humans solve problems and make decisions.
Three lectures; one term
Prerequisite: PSYCH 2I03

PSYCH 3Q03  INDIVIDUAL LIBRARY STUDY
A library project under the supervision of a faculty member that may extend over both terms.
Prerequisite: Registration in Level III or IV. If PSYCH 3Q03 is taken concurrently with PSYCH 4D06 or 4D66, a different faculty member must supervise each course. PSYCH 3Q03 may not be taken concurrently with PSYCH 4D09.
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3Q03  INDIVIDUAL LAB STUDY
A laboratory project under the supervision of a faculty member that may extend over both terms.
Prerequisite: Registration in Level III or IV. If PSYCH 3Q03 is taken concurrently with PSYCH 4D06 or 4D66, a different faculty member must supervise each course. PSYCH 3Q03 may not be taken concurrently with PSYCH 4D09.
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3Q03  ANIMAL BEHAVIOUR LABORATORY
Laboratory and field studies involving a wide variety of species.
One lab (three hours); one term
Prerequisite: One of PSYCH 2RB3, 2RR3, STATS 2MA3, 2MB3; and registration in Level III or IV of an Honours program in Biology or Psychology;
and one of PSYCH 2TT3, 3F03; or six units of Level I Biology
Prerequisite (Beginning 2008-2009): PSYCH 2T03; and one of PSYCH 2RB3, 2RR3, STATS 2MA3, 2MB3; and registration in Level III or IV of an Honours program in Biology or Psychology
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3S3  TOPICS IN SOCIAL BEHAVIOUR
Special topics in social behaviour and social evolution.
Three lectures; one term
Prerequisite: PSYCH 2C03

PSYCH 3T03  SOCIOBIOLOGY
Social behaviour from the perspective of evolutionary theory. Topics include aggression, altruism, kinship, parent-offspring interaction, sex and reproduction.
Three lectures; one term
Prerequisite: One of BIOLOGY 2C03, 3FF3, PSYCH 2TT3
Prerequisite (Beginning 2008-2009): BIOLOGY 3FF3 or PSYCH 2TT3

PSYCH 3U03  PSYCHOLOGY OF READING
Cognitive processes involved in encoding, storing and retrieving written language will be discussed in terms of information processing models.
Three lectures; one term
Prerequisite: PSYCH 2H03 and registration in Level III or IV of a Psychology program or the Honours Linguistic Cognitive Science program; or permission of the instructor

PSYCH 3U03  PSYCHOLOGY OF LANGUAGE
This course discusses the cognitive and neurological basis of language comprehension and production, from an experimental perspective. The emphasis is on the processing of spoken language.
Three lectures; one term
Prerequisite: PSYCH 2H03; or LINGUIST 1A03, 1AA3; or permission of the instructor

PSYCH 3V03  LABORATORY IN HUMAN MEMORY AND COGNITION
Experiments illustrating important issues in human memory and cognition. Problems in the design, analysis, and reporting of experiments will be emphasized. Individual projects required.
One lab (three hours); one term
Prerequisite: PSYCH 2H03 and one of PSYCH 2RB3, 2RR3 or STATS 2MB3 and registration in Level III or IV of an Honours Psychology program; or PSYCH 2H03 and registration in Level III of the Honours Linguistic Cognitive Science program. PSYCH 3V03 is strongly recommended.
Prerequisite (Beginning 2008-2009): PSYCH 2H03, 3V03; and one of PSYCH 2RB3, 2RR3 or STATS 2MB3 and registration in Level III or IV of an Honours Psychology program; or PSYCH 2H03, 3V03 and registration in Level III or IV of the Honours Linguistic Cognitive Science program
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)

PSYCH 3V3  HUMAN MEMORY
Cognitive processes involved in encoding, storage and retrieval will be discussed in terms of current theories of memory and information processing.
Three lectures; one term
Prerequisite: PSYCH 2H03; and registration in Level III or IV of a Psychology, B.Sc. Life Science, Honours Life Science or Honours Linguistic Cognitive Science program

PSYCH 4B03  HISTORY OF PSYCHOLOGY
An account of the various schools of thought leading up to contemporary psychology including a history of how philosophers and psychologists influenced the earliest roots of Psychology as a science.
Three lectures; one term
Prerequisite: Registration in Level IV of an Honours Psychology program
Enrolment is limited. Permission is by pre-registration ballot. (See Department Note 2 above.)
PSYCH 4BN3  COGNITIVE NEUROSCIENCE II
Seminar course on one or more selected topics in cognitive neuroscience, including biological and computational models of learning and memory, sensory science, neuropsychology, and functional brain imaging.
Three lectures; one term
Prerequisite: PSYCH 3BN3
Prerequisite (Beginning 2008-2009): PSYCH 3BN3 and registration in Level IV of an Honours program
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4C03  LANGUAGE DISORDERS IN CHILDHOOD
Seminar with student presentations on selected language disorders.
Three hours (seminar); one term
Prerequisite: PSYCH 3U03 or 3U03; and registration in Level IV of an Honours Psychology program
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4D06  SENIOR THESIS
Students conduct an individual research project under the supervision of a faculty member. A maximum of three units of PSYCH 3Q03, 3Q03, 4Q03, or 4QQ3 may be taken concurrently with PSYCH 4D06, and a different faculty member must supervise each course. For information and guidelines regarding this course, refer to the Psychology web site at http://www.science.mcmaster.ca/psychology/courses.html and click on PSYCH 4D06, or contact the Course Administrator.
Prerequisite: Registration in Level IV of an Honours or Combined Honours program in Psychology.
Prerequisite (Beginning 2008-2009): Registration in Level IV of an Honours or Combined Honours program in Psychology; and credit in one of PSYCH 3BL3, 3E03, 3L03, 3LL3, 3MM3, 3S03, 4S03; and permission of the department.
Antirequisite: PSYCH 4D06, 4DD6, 4J03
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4D09  SENIOR HONOURS THESIS
Students conduct an individual research project under the supervision or co-supervision of a Department of Psychology faculty member. For information and guidelines regarding this course, refer to the Psychology web site at http://www.science.mcmaster.ca/psychology/courses.html and click on PSYCH 4D09, or contact the Course Administrator.
Prerequisite: Registration in Level IV of an Honours Psychology program; and permission of the department. Students are expected to have a Cumulative Average of at least 8.5.
Prerequisite (Beginning 2008-2009): Registration in Level IV of an Honours Psychology program with a Cumulative Average of at least 8.5; and one of PSYCH 3BL3, 3EE3, 3L03, 3LL3, 3MM3, 3S03, 4S03; and permission of the department. PSYCH 3Q03, 3QQ3, 4Q03, 4QQ3 may not be taken concurrently with PSYCH 4D09.
Antirequisite: PSYCH 4D06, 4DD6, 4J03
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4D66  SENIOR THESIS
Students conduct an individual research project under the supervision of a faculty member. A maximum of three units of PSYCH 3Q03, 3Q03, 4Q03 or 4QQ3 may be taken concurrently with PSYCH 4D66, and a different faculty member must supervise each course. For information and guidelines regarding this course, refer to the Psychology web site at http://www.science.mcmaster.ca/psychology/courses.html and click on PSYCH 4D66, or contact the Course Administrator.
Prerequisite: Registration in Level IV of the Honours Biology and Psychology program with a minimum Cumulative Average of at least 8.5.
Prerequisite (Beginning 2008-2009): Registration in Level IV of the Honours Biology and Psychology program with a minimum Cumulative Average of at least 8.5; and credit in one of PSYCH 3BL3, 3EE3, 3L03, 3LL3, 3MM3, 3Q03, 3QQ3, 4Q03; and permission of the department.
Antirequisite: PSYCH 4D06, 4D09, 4J03
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4F03  SPECIAL TOPICS IN NEUROSCIENCE
An advanced seminar focusing on selected topics in neurobiology. Topics for discussion selected in consultation with students and instructor, with focus on animal models of neurobiological processes.
Prerequisite: PSYCH 3F03 and registration in an Honours Biology or Psychology program. Completion of BIOLOGY 2B03 and/or 3P03 are recommended. Prerequisite (Beginning 2008-2009): A grade of at least B in PSYCH 2F03 and registration in Level IV of an Honours Biology or Psychology program. Completion of BIOLOGY 2B03 and/or 3P03 are recommended.
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4J03  INQUIRY IN PSYCHOLOGY
This course will provide students with an opportunity to develop skills required to launch investigations of selected psychological themes.
Prerequisite: Registration in Level IV of an Honours Psychology program
Antirequisite: PSYCH 4D06, 4D09, 4DD6
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4Q03  ADVANCED INDIVIDUAL LIBRARY STUDY
A library project under the supervision of a faculty member that may extend over both terms.
Prerequisite: Registration in Level IV of an Honours Psychology program.
If PSYCH 4Q03 is taken concurrently with PSYCH 4D06 or 4DD6, a different faculty member must supervise each course. PSYCH 4Q03 may not be taken concurrently with PSYCH 4D05.
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4Q04  ADVANCED INDIVIDUAL LAB STUDY
A laboratory project under the supervision of a faculty member that may extend over both terms.
Prerequisite: Registration in Level IV of an Honours Psychology program.
If PSYCH 4Q04 is taken concurrently with PSYCH 4D06 or 4DD6, a different faculty member must supervise each course. PSYCH 4Q04 may not be taken concurrently with PSYCH 4D05.
PSYCH 4Q04 may be repeated once with permission of the course coordinator.
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4R03  SPECIAL TOPICS IN ANIMAL BEHAVIOUR
An advanced seminar focusing on selected topics in animal behaviour.
Prerequisite: PSYCH 3T03; and one of PSYCH 4F03, 3S03, 3T03; and registration in an Honours Biology or Psychology program.
Prerequisite (Beginning 2008-2009): PSYCH 3T03; and PSYCH 3F03 or 3T03; and registration in Level IV of an Honours Biology or Psychology program.
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4Y03  HORMONES, NEUROCHEMISTRY AND BEHAVIOUR
Steroids, peptides, monoamines, and interacting neural structures are considered in relation to feeding, reproductive behaviour, aggression, stress, and learning in humans and other vertebrates.
Prerequisite: PSYCH 4D03, 4T03; and credit in one of PSYCH 3Q03, 3T03; and registration in Level III or above of an Honours program.
Prerequisite (Beginning 2008-2009): PSYCH 3M03; and six units of Biochemistry and/or Biology; and registration in Level III or above of an Honours program.
Enrolment is limited. Permission is by preregistration ballot. (See Department Note 2 above.)

PSYCH 4Z03  TOPICS IN PSYCHOLOGY AND BEHAVIOUR
Consult the Department of Linguistics and Languages for topics to be offered.
Prerequisite: LINGUIST 3B03 or PSYCH 3B03 or PSYCH 3U03
Cross-list: LINGUIST 4Z03
PSYCH 4Z03 may be repeated if on a different topic to a total of six units. Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.
Faculty of as of January 15, 2007
Chair
P. Travis Kroeker
Professors
P. Travis Kroeker/B.A. (Winnipeg), M.A. (Manitoba), Ph.D. (Chicago)
Stephén R. Westerholm/B.A., M.A. (Toronto), D.Th. (Lund)
Associate Professors
Ellen Badone/B.A., M.A. (Toronto), Ph.D. (California-Berkeley)
Peter Widdicombe/B.A. (Manitoba), M.Phil. (Oxford), M.Div. (Toronto), D.Phil. (Oxford)
Assistant Professors
Phillipa Carter/ B.A. (Toronto), M.A., Ph.D. (McMaster)
Shayne Clarke/B.A., M.A. (Canterbury), Ph.D. (California-Los Angeles)
Dana Hollanders/ B.A. (Quinnipiac College), M.A., Ph.D. (Johns Hopkins)
Anne Pearse/ B.A. (Toronto), M.A., Ph.D. (McMaster)
Annette Reed/ B.A. (McGill University), M.T.S. (Harvard), M.A., Ph.D. (Princeton)
Celia Rothenberg/ (Wellesley College), M.A., Ph.D. (Princeton)
Mark Rowe/ B.A., M.A., Ph.D. (Princeton)
Associate Members
Virginia Aksani/History B.A. (Allegheny College), M.L.S. (California-Berkeley), M.A., Ph.D. (Toronto)
Jeremy Stolow/Sociology, Communication Studies and Multimedia B.A. (Toronto), M.A., Ph.D. (York)

Department Note:
Students are advised to consult both the Department (University Hall, Room 104) and the Undergraduate Timetable for a list of the courses offered in the current year.

Fields of Study
The Department offers courses in four fields of study. Students are encouraged to specialize in any one of these fields: Level II, III and IV courses are allocated to the fields as follows:

I. ASIAN RELIGIONS
RELIG ST 2E03, 2F03, 2G03, 2H03, 2I03, 3P06, 2TT3, 3AA3, 3E03, 3L03, 3P03, 3R03, 3S03, 3U03, 3V03, 4H03
SANSKRIT 3A08, 4B06

II. BIBLICAL STUDIES
RELIG ST 2B03, 2D03, 2EE3, 2GG3, 2HH3, 2VV3, 2YY3, 2Z03, 3DDD3, 3GG3, 3J03, 3K03, 3M03, 3N03, 3R03, 3T03, 4I03
HEBREW 2A03, 2B03, 3A03, 3B03

III. WESTERN RELIGIOUS THOUGHT
RELIG ST 2C03, 2E03, 2FF3, 2I03, 2II3, 2K03, 2M03, 2N03, 2P03, 2T03, 2U03, 2W03, 3Z03, 3A03, 3B03, 3CC3, 3D03, 3GG3, 3K03, 3L03, 3M03, 3N03, 3W03, 3X03, 3Z03, 3Z23, 4N03

IV. CONTEMPORARY AND COMPARATIVE RELIGIONS
RELIG ST 2BB3, 2H03, 2M03, 3N03, 2Q03, 2S03, 2TT3, 2W03, 2W03, 3EE3, 4P03

Students wishing to specialize in Asian Religions should consider beginning language training in SANSKRIT or Japanese or both early in their program (see offerings listed under these headings). Students wishing to specialize in Biblical Studies should consider work in Greek (see offerings under Classics, Greek) or Hebrew or both. For further study of the Hebrew Bible, RELIG ST 2D03, 2EE3, 3M03 are recommended.

Courses
If no prerequisite is listed, the course is open.

RELIG ST 1B05 WORLD RELIGIONS
A comparative study of religions such as Hinduism, Buddhism, Islam, Christianity, and Judaism with special reference to selected texts, traditions and thought.
Two lectures, one tutorial; two terms

RELIG ST 1006 MODERN STUDY OF THE BIBLE
An introduction to the discipline of modern biblical criticism focusing on the development of selected central themes.
Two lectures, one tutorial; two terms

RELIG ST 1E03 LOVE IN WESTERN CIVILIZATION
A discussion of the variety of accounts of love in Western civilization from the time of the ancient Greeks and the rise of Christianity to modernity.
Two lectures, one tutorial; two terms

RELIG ST 103 RELIGIOUS THEMES IN MODERN LITERATURE
An introduction to religious themes, imagery and issues through a study of selected modern literature.
Two lectures, one tutorial; one term

RELIG ST 2B03 WOMEN IN THE BIBLICAL TRADITION
This course will focus on the portrayal of woman in the Hebrew Scriptures and the New Testament. Among the texts to be dealt with are examples of biblical narrative and legal material, the gospels, the letters of Paul and extra-biblical material.
Two lectures, one tutorial; one term

RELIG ST 2BB3 IMAGES OF THE DIVINE FEMININE
An examination of goddesses and female religious symbols in a variety of cultures: tribal, eastern and western.
Two lectures, one tutorial; one term

RELIG ST 2C03 MORAL ISSUES
An introduction to moral philosophy accented by biomedical ethics. Issues such as abortion, human experimentation, euthanasia, and genetic screening will be investigated in cooperation with members of the Faculty of Health Sciences.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above
Cross-list: PHILOS 2D03
This course is administered by the Department of Philosophy.

RELIG ST 2D03 THE FIVE BOOKS OF MOSES
An examination of selected texts from the Pentateuch and their significance for Ancient Israelite religion and modern thought.
Two lectures, one tutorial; one term

RELIG ST 2EE3 PROPHETS OF THE BIBLE
The role and teaching of biblical prophets in their ancient setting and their impact on modern religious life and thought.
Two lectures, one tutorial; one term

RELIG ST 2F03 STORYTELLING IN EAST ASIAN RELIGIONS
An in-depth study of selected examples of story literature in China and Japan with attention to the way religion is represented.
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3H03
Antirequisite: RELIG ST 3H03

RELIG ST 2F03 MEDITERRANEAN ENCOUNTERS 1500-1800
The course examines the Mediterranean region as a zone of intense cultural interaction. Particular emphasis will be given to the interaction between Christian, Jewish and Islamic societies. Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 2H03
This course is administered by the Department of History.

RELIG ST 2GG3 EARLIEST PORTRAITS OF JESUS
A study of the Gospels of Matthew, Mark, and Luke. Special attention will be given to the possible literary relationships among them as well as to the distinctive features of their Jesus stories.
Two lectures, one tutorial; one term

RELIG ST 2H03 THE THEORY AND PRACTICE OF NON-VIOLENCE
An introduction to the history, theory and practice of non-violence, with attention to the relations between religious representatives of the tradition such as Tolstoy, Gandhi and King and secular or political figures such as Gene Sharp and James Scott.
Two lectures, one tutorial; one term
RELIG ST 2HH3  PAUL AND CHRISTIAN ORIGINS
Two lectures, one tutorial; one term

RELIG ST 2I03  STORYTELLING IN INDIAN RELIGION
A survey of some of the many stories that were told by Buddhists, Jains and Hindus as a form of popular religious instruction and of the various uses made of humor and wit in religious teaching.
Two lectures, one tutorial; one term

Antirequisite: RELIG ST 3I03

RELIG ST 2I33  CHRISTIANITY IN THE PATRIARCHIC PERIOD (100-800)
The development of Christianity in the first centuries C.E. in relation to competing alternatives such as Judaism, Graeco-Roman cults and philosophies.
Two lectures, one tutorial; one term

RELIG ST 2IJ3  CHRISTIANITY IN THE MEDIEVAL PERIOD (600-1500)
The development of Christianity in the Middle Ages and its relation to the political and intellectual context. Primary texts will illustrate typical aspects of medieval religious, learned and popular.
Two lectures, one tutorial; one term

RELIG ST 2K03  INTRODUCTION TO BUDDHISM
A survey of the developments of the essential concepts, practices, and institutions of the Buddhist religion, emphasizing its role in the history and culture of Asian societies.
Two lectures, one tutorial; one term

RELIG ST 2KK3  CHRISTIANITY IN THE REFORMATION PERIOD
The place of the Reformation in the development of Christian thought and practice -its background, context and sequel. Attention is given to such figures and movements as Martin Luther, John Calvin, the Anabaptists, the reformation in England, the Catholic Reformation.
Two lectures, one tutorial; one term

RELIG ST 2L03  LIFE, WORK AND TEACHINGS OF MAHATMA GANDHI
A study of the central religious and ethical ideas of Gandhi in the context of his life, in particular: his doctrines of Non-violent Struggle and Truth-act; his place in contemporary consciousness, particularly in the struggle for human harmony and preservation of the earth and its living species; and his revolutionary view of Truth itself as God.
Two lectures, one tutorial; one term

RELIG ST 2M03  DEATH AND DYING: COMPARATIVE VIEWS
A comparative survey of the diversity of social and ritual practices, religious beliefs, and emotional responses surrounding death in a variety of non-Western cultural contexts.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above

RELIG ST 2MM3  WAR AND PEACE IN THE CHRISTIAN TRADITION
Christian thinking and practice on militarism, the restraint of war and paths to peace, including just war, nonviolence, pacifism and revolution.
Two lectures, one tutorial; one term

RELIG ST 2N03  DEATH AND DYING: THE WESTERN EXPERIENCE
Drawing on theoretical perspectives and evidence from anthropology and sociology, this course examines death and dying in Western contexts, focusing on biomedical, social and cultural therapies.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level II or above

RELIG ST 2P06  JAPANESE CIVILIZATION
Introduction to Japanese history, society, and culture through a study of the religious traditions, literature, and art of Japan.
Two lectures, one tutorial; two terms
Cross-list: JAPAN ST 2P06

RELIG ST 2Q03  INTRODUCTION TO ISLAM
The origins and early history of Islam with an emphasis on the Koran and the early Muslim community.
Two lectures, one tutorial; one term

RELIG ST 2Q03  CULTS IN NORTH AMERICA
An examination of recent religious trends in North America. The Hare Krishna Movement, the Church of Scientology, the "Family" Branch Davidians and Satanism will be covered.
Two lectures, one tutorial; one term

RELIG ST 2S33  WOMEN AND RELIGION
A study of the status and roles of women in several religions, such as Hinduism, Buddhism, Confucianism, Christianity, Judaism, and Islam. Important women religious figures and feminist theology will also be studied.
Two lectures, one tutorial; one term

RELIG ST 2T33  RELIGION AND POPULAR CULTURE IN CONTEMPORARY JAPAN
An introduction to the study of Japanese popular culture in the contemporary period and the religious traditions and world-views that inform it through textual, visual and other multi-media sources, including manga and anime.
Two lectures, one tutorial; one term

RELIG ST 2U03  RELIGION AND THE MORAL IMAGINATION
An exploration of religious and ethical themes/symbols/practices in selected ancient and modern literature (including plays, stories, poetry) and art in the western traditions.
Two lectures, one tutorial; one term
Antirequisite: RELIG ST 2U03

RELIG ST 2V03  ISLAM AND THE MODERN WORLD
The spread of Islam, Islam as a minority community, the role of women in Islam and fundamentalism.
Two lectures, one tutorial; one term

RELIG ST 2V03  THE BIBLE AS LITERATURE
An examination of narratives from the Hebrew Bible, Intertestamental literature, and New Testament, from a literary perspective. Attention is paid to narrative features such as character, plot, irony and symbolism, as well as to the dynamics of the reading experience.
Two lectures, one tutorial; one term
Cross-list: COMP LIT 2G03

RELIG ST 2W03  RELIGION AND ECOLOGY
Attitudes toward nature or the environment in Native, Asian and Western religious traditions; the underlying assumptions of our contemporary view of the natural world.
Two lectures, one tutorial; one term

RELIG ST 2WW3  HEALTH, HEALING AND RELIGION
An examination of the different ways in which religion and health are related. Ideas of sickness and techniques of healing will be studied in a variety of traditional and modern religious contexts.
Two lectures, one tutorial; one term

RELIG ST 2Y03  THE BIBLE AND FILM
An examination of the use of the Bible in film. A variety of film genres will be studied including the Disney cartoon, biblical epic, horror film, contemporary comedy and drama and the rock music video. Issues to be discussed include the transformation of biblical images in popular media and film as a vehicle for conveying religious values.
Two lectures, one tutorial; one term

RELIG ST 2Z3  SHAKESPEARE: RELIGIOUS AND POLITICAL THEMES
An examination of ethical, political and religious themes in several of Shakespeare's plays, including The Merchant of Venice.
Two lectures, one tutorial; one term

RELIG ST 3A03  MODERN JEWISH THOUGHT
Introduction to different conceptions of the connection between Jewish traditions and philosophical questioning. Authors may include: Maimonides, Spinoza, Mendelssohn, Cohen, Buber, Rosenzweig, Strauss, Levinas, Solovitchik.
Three hours (lectures and discussion); one term
Cross-list: PHILOS 3J03

RELIG ST 3A03  POPULAR RELIGION IN THE INDIAN TRADITION
The music, dance and festivals associated with temples in India and its diaspora will be analyzed in terms of their social, psychological and political implications.
Two lectures, one tutorial; one term

RELIG ST 3B03  CHRIST THROUGH THE CENTURIES
A study of the varied theological and artistic conceptions of Jesus Christ in the principal periods of Christian thought: the Biblical, Patristic, Medieval, Reformation, and Modern.
Two lectures, one tutorial; one term

RELIG ST 3C03  SOVEREIGNTY AND SECULARIZATION
Exploration of key modern Western texts concerning the nature of leadership and authority in both religious and secular contexts. Readings by Hobbes, Weber, Schmitt, Buber, plus case studies of important modern or contemporary dilemmas regarding the place of religion in public life.
Three hours (lectures and discussion); one term
310 RELIGIOUS STUDIES

RELIG ST 3D03 GOD, REASON AND EVIL
An examination of understandings of reason and evil in ancient Greek, medieval Christian and modern times, and of how these understandings are related to accounts of the nature of God.
Two lectures, one tutorial; one term

RELIG ST 3D33 THE JEWISH WORLD IN NEW TESTAMENT TIMES
A study of Judaism in the Greco-Roman world. The course will explore selected questions in political history, the development of sects and parties, the role of the temple, apocalypticism, and the Dead Sea Scrolls.
Two lectures, one tutorial; one term
Cross-list: HISTORY 3D03
Antirequisite: RELIG ST 2NN3

RELIG ST 3E03 JAPANESE RELIGION
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3E03

RELIG ST 3EE3 SACRED JOURNEYS
A study of the significance of travel in various religious traditions, focusing on shrines, pilgrimages, and the inter-relationships between secular and sacred travel.
Two lectures, one tutorial; one term

RELIG ST 3F03 APPROACHES TO THE STUDY OF RELIGION
A study of the various ways religious phenomena can be studied, e.g. psychologically, sociologically, philosophically, theologically, comparatively, etc. Attention is also given to the history of the discipline of religious studies.
Two lectures, one tutorial; one term
Prerequisite: Six units of Religious Studies courses above Level I

RELIG ST 3GG3 TOPICS IN JEWISH STUDIES
An exploration of selected themes in Jewish thought, history, and/or culture.
Three hours (lectures and discussion); one term
RELIG ST 3GG3 may be repeated, to a total of six units, if on a different topic.

RELIG ST 3J03 JEWS, CHRISTIANS, AND OTHERS IN ANTIQUITY
An examination of the contacts, conflicts, and competition among Jews, Christians, and their non-Jewish, non-Christian neighbours (Greeks, Romans, Egyptians) in the ancient world.
Two lectures, one tutorial; one term

RELIG ST 3K03 CHRISTIANITY IN THE MODERN PERIOD
Topics in Christianity (Catholic and Protestant) from the 17th to the 20th centuries. Attention is given to the interaction between secular and religious thought.
Two lectures, one tutorial; one term

RELIG ST 3K03 THE BIBLE THROUGH THE AGES
A study of the different ways in which the Bible has been read, from antiquity to the modern world, both inside and outside the communities for which it serves as sacred scripture. The course will focus on selected key figures in the history of biblical interpretation.
Two lectures, one tutorial; one term

RELIG ST 3L03 THE INDIAN RELIGIOUS TRADITION
Readings of Indian religious texts in translation will concentrate on themes such as the nature of human nature; free will and determinism; personal identity and the quest for perfection; renunciation and social action; violence and non-violence; altruism and selfishness.
Two lectures, one tutorial; one term
Prerequisite: Registration in Level III and above
Cross-list: ARTS&SCI 3L03

RELIG ST 3L33 RELIGION AND HUMAN NATURE
What is the nature of human nature and its fulfillment? A study of recent philosophical, scientific and religious anthropology.
Two lectures, one tutorial; one term

RELIG ST 3M03 SONGS OF DAVID: POETRY IN THE HEBREW BIBLE
A study of poetry in the Hebrew Bible (in translation). The course will give primary attention to the study of the psalms. Some examples of early epic poetry and wisdom poetry will also be included.
Two lectures, one tutorial; one term

RELIG ST 3MM3 SCEPTICISM, ATHEISM AND RELIGIOUS FAITH
A study of conceptions of religious belief, knowledge and God in the history of modern thought up to the 20th century, with special attention to major challenges to the role of religious faith in human existence. Authors may include: Descartes, Hume, Kant, Schleiermacher, Nietzsche, Dostoievsky, Kierkegaard, Camus, Buber, Levinas.
Two lectures, one tutorial; one term

RELIG ST 3N03 JOHN'S PORTRAIT OF JESUS
An examination of the Gospel of John, with emphasis on its historical background, its literary character and its distinctive theology. The history of the Johannine community will also be considered.
Two lectures, one tutorial; one term
Antirequisite: RELIG ST 2003

RELIG ST 3N3 JUDAISM, THE JEWISH PEOPLE AND THE BIRTH OF THE MODERN WORLD
On the hopes and threats of the modern world from the early eighteenth to the early twentieth century. Topics include: Jewish philosophy in the Age of Reason, new Jewish denominations, assimilation, early Zionism, Yiddish socialism, the beginnings of modern anti-semitism, movements of cultural renewal.
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3U3

RELIG ST 3UU3 BUDDHISM IN EAST ASIA
An examination of myth, history, doctrine, monastic culture, and ritual practices in East Asian Buddhism.
Two lectures, one tutorial; one term
Cross-list: JAPAN ST 3UU3

RELIG ST 3Z03 THE ENCOUNTER OF SCIENCE AND RELIGION
A study of contemporary discussions of: (a) methods of inquiry in science and religion, (b) the human being's relation to nature and (c) God's relation to nature.
Two lectures, one tutorial; one term

RELIG ST 3Z03 SACRED JOURNEYS
A study of the significance of travel in various religious traditions, focusing on shrines, pilgrimages, and the inter-relationships between secular and sacred travel.
Two lectures, one tutorial; one term

RELIG ST 3Z3 JUDAISM AND THE JEWISH PEOPLE IN THE TWENTIETH CENTURY
Jews and Judaism in a century of catastrophe and renewal. The progress of Emancipation: Jews in Canada and the U.S.; the Jewish catastrophe in Europe; the Jewish state: Jewish identities in literature and the arts.
Two lectures, one tutorial; one term
Cross-list: HISTORY 3Z3
Antirequisite: RELIG ST 2XX3
RELIG ST 4H03 **TOPICS IN ASIAN RELIGIONS**
Advanced seminar in Asian religions.
One term
Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor
Offered in alternate years.

RELIG ST 4I03 **TOPICS IN BIBLICAL STUDIES**
Advanced seminar in Early Judaism and Early Christianity.
One term
Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor
Offered in alternate years.

RELIG ST 4N03 **TOPICS IN WESTERN RELIGIOUS THOUGHT**
Advanced seminar in philosophy, theology and political thought dealing with contemporary and historical materials.
One term
Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor
Offered in alternate years.

RELIG ST 4P03 **TOPICS IN CONTEMPORARY AND COMPARATIVE RELIGION**
Advanced seminar in contemporary and comparative religion, from the perspectives of the anthropology and sociology of religion.
One term
Prerequisite: Registration in Level III or above of an Honours Religious Studies program or permission of the instructor
Offered in alternate years.

RELIG ST 4Q03 **ADVANCED READINGS IN RELIGIOUS STUDIES**
Independent study of special topics in Religious Studies.
One term
Prerequisite: Registration in Level III or above of an Honours Religious Studies program and permission of the instructor
RELIG ST 4Q03 may be repeated, to a total of six units, if on a different topic.

RELIG ST 4R03 **HONOURS THESIS**
Students in this course will work closely with faculty members who specialize in the fields of study in which they plan to write their honours essay.
Two terms
Prerequisite: Registration in Level IV of an Honours Religious Studies program with a minimum C.A. of 9.5; or permission of the instructor
Antirequisite: RELIG ST 4J06

HEBREW ...

HEBREW 2A03 **INTRODUCTION TO BIBLICAL HEBREW I**
An introduction to the basics of grammar, syntax and vocabulary of the language of the Hebrew Bible. The student will begin to read in the Hebrew Bible.
Four hours (two lectures); one term
Antirequisite: HEBREW 2A06

HEBREW 2B03 **INTRODUCTION TO BIBLICAL HEBREW II**
An introduction to more grammar, syntax and vocabulary of the language of the Hebrew Bible. The knowledge acquired should enable the student to read the simple prose and poetry of the Hebrew Bible.
Four hours (two lectures); one term
Prerequisite: HEBREW 2A03 or permission of the instructor
Antirequisite: HEBREW 2A06

HEBREW 3A03 **INTERMEDIATE HEBREW I**
A reading course in classical (biblical) Hebrew. Sample texts will be read from some or all of the following: the Hebrew Bible, Mishnah, ancient Hebrew inscriptions and the Dead Sea Scrolls.
Four hours (two lectures); one term
Prerequisite: HEBREW 2B03 or permission of the instructor
Antirequisite: HEBREW 3A06

HEBREW 3B03 **INTERMEDIATE HEBREW II**
Further sample texts will be read from some or all of the following: the Hebrew Bible, the Mishnah, ancient inscriptions and the Dead Sea Scrolls.
Four hours (two lectures); one term
Prerequisite: HEBREW 2B03 or permission of the instructor
Antirequisite: HEBREW 3A06

SANSKRIT ...

SANSKRIT 3A06 **INTRODUCTION TO SANSKRIT GRAMMAR**
Basic course in the elements of Sanskrit grammar. No previous knowledge of Sanskrit is required.
Three lectures; two terms

SANSKRIT 4B06 **READINGS IN SANSKRIT TEXTS**
Intermediate course with readings in selected texts.
Three lectures; two terms
Prerequisite: SANSKRIT 3A06

RUSSIAN

(SEE LINGUISTICS AND LANGUAGES, RUSSIAN)

SANSKRIT

(SEE RELIGIOUS STUDIES, SANSKRIT)

SCHOOL OF THE ARTS

WEB ADDRESS: http://www.humanities.mcmaster.ca/~sota/index.html
Togo Salmon Hall, Room 414
Ext. 27671

Faculty as of January 15, 2007

Acting Director
Keith W. Kinder

Professors
Hayden B.J. Megginson/B.A. (Western Ontario), M.A., Ph.D. (Princeton)
(Anthropology)
William Renwick/B.Mus. (British Columbia), Ph.D. (CUNY), A.A.G.O., F.R.C.C.O. (Music)

Associate Professors
Susan Fast/B.M. (Western Washington), M.A., Ph.D. (Iowa) (Music)
Catherine Graham/B.A., M.A., Ph.D. (McGill) (Theatre & Film Studies)
Frederick A. Hall/Assoc. Dipl., B.Mus. (McGill), M.A., Ph.D. (Toronto) (Music)
Hugh K. Hartwell/Assoc. Dipl., B. Mus. (McGill), A.M., Ph.D. (Pennsylvania) (Music)
Janice Hladik/B.A. (York), M.A., Ph.D. (Toronto) (Theatre & Film Studies)
Keith W. Kinder/Dip.F.A. (Calgary), B.Mus. (Western Ontario), M.Mus. (Northwestern), Ph.D. (Colorado) (Music)
Judy N. Major-Girardin/B.Mus. (McGill), M.A. (Alabama) (Art)
Alison McQueen/B.A. (McGill), M.A., Ph.D. (Pittsburgh)
Joseph Sokalski/B.Ed. (Alberta), M.A., Ph.D. (Toronto) (Theatre & Film Studies)
Graham Todd/Dip. (Chelsea School of Art) M.F.A. (Guatemala) (Art)

Assistant Professor
Angela Sheng/B.A., M.A. (Toronto), Ph.D. (Pennsylvania)

Associate Members
Michele G. George/Classics B.A. (Toronto), M.A., Ph.D. (McMaster)
David C. Wilson/Film Studies Cert. Ed. (St. Paul's College), B.Ed. (Bristol), M.A. (York)

Music Studio Instructors
Elise Bédard/B.Mus., L.Mus., M.Mus. (McGill) (voice)
Lita Classen/B.Mus. (Ottawa), M.Mus. (Vincent d'Indy Montreal) Dipl. Perf. (Vienna) (voice)
Richard Cunningham/B.Mus. (Toronto) (voice)
Kevin Dempsey/percussion
Cecile Desrosiers/B.Mus. (McGill), M.Mus. (Western Ontario) (piano)
Lance Eibeck/B.Mus. (Curts inst. of Music, Philadelphia) (violin)
Paula Elliott/B.Mus. (Oberlin), M.M. (New England Conservatory) (flute)
Don Engeist/jazz saxophone
Robert Fekete/Dipl. (Mohawk College), B.Mus., B. Ed. (Toronto) (jazz piano)
Tom Forsyth/B.F.A., M.F.A. (York), B.Ed. (Toronto) (jazz band)
David Gery/A.R.C.T., B.Mus. (Toronto), Dipl. Ped. (Japan) (flute)
Paul Grimwood/B.Mus. (Western Ontario) (harpsichord and organ)
David Holler/McMaster University Choir Director
With the exception of SCIENCE 1A00, 1B00, 2B03, 2C00 and 2L03, the Science courses are designed primarily for students in the Humanities and Social Sciences to give an appreciation of important areas of modern science and do not assume any specific background in science. Other science courses that may be of interest to students in the Humanities and Social Sciences are listed by Department. They are:

**BIOLOGY 1K03** Biology for the Humanities and Social Sciences

**COMP SCI 1SA3** Computing Fundamentals

**COMP SCI 1T3A** Natural Disasters

**GEO 2G93** Water and the Environment

**GEO 2W93** Earth's Changing Climate

**GEO 3D3** Gearchaeology of the Underwater Realm

**KINESIOL 1Y03** Human Anatomy and Physiology I

**KINESIOL 1Y3** Human Anatomy and Physiology II

**STATS 1A03** Statistical Reasoning

**STATS 1L03** Probability and Linear Algebra

**Courses If no prerequisite is listed, the course is open.**

**SCIENCE 1A00** WHMIS, HEALTH AND SAFETY

Introduction to safety guidelines at McMaster University, acceptable safety conduct and positive safety attitudes and practices in laboratories and Workplace Hazardous Materials Information System (WHMIS). Evaluation: one multiple choice examination graded Pass or Fail. Students who fail will be required to attend the course again during the same academic year. One session (one hour)

Antirequisite: ENGINEER 1A00, ENG TECH 1A00, NURSING 1A00

**SCIENCE 1B00** UNIVERSITY SURVIVAL

Web-based (through WebCT) introduction to university life and expectations. University services and resources available to students will be covered. Modules, consisting of quizzes and assignments, will include such topics as basic orientation, library usage, time management, academic dishonesty and career options. Online surveys (for students to give their views on the course) are to be completed in both December and April (follow-up). One term

Antirequisite: Registration in Science I, Mathematics and Statistics I or Medical Radiation Sciences I

**SCIENCE 1D03** ASTRONOMY

A survey of modern and historical concepts in astronomy. Light and the telescope, distance measurement in space, the structure and evolution of stars, galaxies, cosmology, Three lectures; one term

Prerequisite: Open to students registered in any faculty other than Science or Engineering. OSS Grade 11 or OSIS Grade 12 Mathematics required. Antirequisite: ASTRON 1F03, PHYSICS 1F03, SCIENCE 2B03

**SCIENCE 2B03** THE BIG QUESTIONS

An introductory survey concerning ultimate questions in modern science, with an emphasis on physical sciences: origin of space-time, elements, structure in the cosmos, conditions for life and the search for life on other planets. Three lectures; one tutorial; first term

Prerequisite: Registration in Level II or above

Cross-list: ORIGINS 2B03

Note: Students who intend to combine the Origins Research Specialization with their degree program should register in ORIGINS 2B03. This course is administered by the Origins Institute.

**SCIENCE 2C00** SKILLS FOR CAREER SUCCESS IN SCIENCE

Develop career skills (resume, cover letter, interview, job search) necessary to create a career path. Seven, one hour lectures/workshops; one term

Prerequisite: Full-time registration in Level II or above of any program in the Faculty of Science Registration priority will be given to students in a co-op program.

**SCIENCE 2J03** PHYSICS OF MUSICAL SOUND

Sound waves, production of sound by musical instruments; properties of the ear, musical scales and intervals; auditorium acoustics. Three lectures with demonstrations; one term

Prerequisite: Registration in Level II or above of a non-science program Antirequisite: PHYSICS 2J03

Knowledge of OSS Grade 11 Mathematics or OSIS Grade 12 Mathematics would be helpful.

**SCIENCE 2K03** HEREDITY, EVOLUTION AND THE ENVIRONMENT

Introduction to the principles of human genetics and evolutionary biology, the adaptation of organisms to their environment, biological diversity and integrated ecosystems. Three lectures or two lectures and one tutorial; one term

Prerequisite: Registration in Level II or above

Antirequisite: BIOLOGY 1A03, 1A08, 1A03

Offered in alternate years.
SCIENCE 2L03  TEACHING AND LEARNING FOR TUTORS
The course provides an opportunity to explore teaching and learning using a variety of methods from the traditional lecture to more experiential methods (e.g., simulation). Self-directed learning will include experience in the classroom, reading and reflection and discussion.
Prerequisite: Registration in Level II or above of an Honours program in the Department of Science.
Cross-list: SOC SCI 2L03
Antirequisite: HTH SCI 4X03, INQUIRY 3S03, 4S03, SCIENCE 3S03
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.

SCIENCE 3S03  TEACHING INQUIRY (PEER TUTORING)
This course provides an opportunity to learn about the teaching of inquiry through practical experience as a peer tutor working closely with an inquiry instructor and through projects investigating some aspects of Inquiry in more detail.
Prerequisite: Three units of Inquiry and permission of the instructor.
Antirequisite: HTH SCI 4X03, INQUIRY 3S03, 4S03, SCIENCE 2L03, SOC SCI 2L03

SCIENCE 4A03  INDEPENDENT STUDY
An independent study under the supervision of a faculty member.
One term
Prerequisite: Registration in Level IV of an Honours program in the Faculty of Science and permission of the supervising faculty member.
Antirequisite: INQUIRY 4S3J, 4S5K, SCIENCE 4B06, 4C09

SCIENCE 4B06  INDEPENDENT STUDY
An independent study under the supervision of a faculty member.
Two terms
Prerequisite: Registration in Level IV of an Honours program in the Faculty of Science and permission of the supervising faculty member.
Antirequisite: INQUIRY 4S3J, 4S5K, SCIENCE 4A03, 4C09

SCIENCE 4C09  INDEPENDENT STUDY
An independent study under the supervision of a faculty member.
Two terms
Prerequisite: Registration in Level IV of an Honours program in the Faculty of Science and permission of the supervising faculty member.
Antirequisite: INQUIRY 4S3J, 4S5K, SCIENCE 4A03, 4C09

SCIENCE 4S23  PHOENIX: OUT OF THE ASHES AND INTO THE ATOMIC AGE
This course will study the short and long term impact of nuclear weapons testing and use, upon humans and the environment. Students will visit critical sites where nuclear weapons were developed and detonated. The travel portion of the course will run for 10-12 days (dependant on available travel schedules) and will involve group discussions and field experiences. Students will be required to pay incidental fees over and above the normal tuition fees set by the University to cover travel costs.
Prerequisite: Registration in Level IV of any Honours program in the Faculty of Science.
Cross-list: MED PHYS 4S23
Antirequisite: INQUIRY 4S23
Enrolment is limited. See the heading Limited Enrolment Courses in the Faculty of Science section of the Calendar.
This course is administered by the Department of Medical Physics and Applied Radiation Sciences.

SOCIAL SCIENCES

Notes:
1. All students are strongly recommended to complete SOC SCI 2E00. Completion of SOC SCI 2E00 is required to participate in an internship.
2. Students who previously completed SOC SCI 2E00 and 2F03 may substitute these units as Level II Sociology.
3. SOC SCI 2003, 2P03, 2Q03 and 2R03 may be substituted as units of Level II Sociology.

Courses
If no prerequisite is listed, the course is open.

SOC SCI 2E00  INTRODUCTION TO CAREER PLANNING THROUGH EXPERIENTIAL LEARNING
Provides an opportunity to engage in a variety of hands-on exploration activities to provide a strong foundation for career and education planning. Students will better understand the skills acquired in academic studies, extracurricular activities, work experience and how this relates to making occupational choices and job searching.
Six, two hour lectures/workshop; one term
Prerequisite: Registration in a Kinesiology or Social Sciences program.
Antirequisite: SOC SCI 3E00
(See Note 1 above.)

SOC SCI 2J03  INTRODUCTION TO STATISTICS
An introduction to basic statistical concepts and their application to the analysis of data from the social sciences. The use of spreadsheets is emphasized.
Three hours; one term
Prerequisite: Registration in Level II or above of a Kinesiology or Social Sciences program.
Antirequisite: COMMERCE 2T03
Not open to students with credit or registration in: ECON 2B03, 3B08, 3J03, GEOG 2S03, GEOS 2L03, 2N03, HTH SCI 3B03, 3C03, KINESIOL 3B03, 3B06, 3C03, POL SCI 2F06, 3N06, PSYCH 3F02, 3R02, 3R03, 3R04, SOC SCI 2Y03, 3H08, STATS 1A03, 1C03 or any Level II, III or IV statistics course.

SOC SCI 2L03  TEACHING AND LEARNING FOR TUTORS
Provides an opportunity to explore teaching and learning using a variety of methods from the traditional lecture to more experiential methods (e.g., simulation). Self-directed learning will include experience in the classroom, reading and reflection, and discussion.
Three hours; one term
Prerequisite: Registration in Level II or above of an Honours Social Sciences, Kinesiology or a B.A./B.S.W. program.
Cross-list: SCIENCE 2L03
Antirequisite: HTH SCI 4X03, INQUIRY 3S03, 4S03, SCIENCE 3S03

SOC SCI 2Q03  CANADIAN CHILDREN
This course deals with a spectrum of issues related to Canadian children such as family, socialization, identity formation, moral development, abuse and strategies for a better future.
Three hours (lectures and discussion); one term
Not open to students with credit in SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES if the topic was Canadian Children.
(See Note 3 above.)

SOC SCI 2P03  CANADIAN ADOLESCENTS
This course deals with a spectrum of issues related to Canadian adolescents such as identity formation, sexuality, peer groups and power and the social politics of career formation.
Three hours (lectures and discussion); one term
Not open to students with credit in SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES if the topic was Canadian Adolescents.
(See Note 3 above.)

SOC SCI 2Q03  WOMEN AND FAMILY IN CANADA
A discussion of contrasting approaches to the study of the family from a Symbolic Interactionist perspective. Topics include mother-daughter, father-daughter, mother-son relationships and motherless daughters.
Three hours (lectures and discussion); one term
Not open to students with credit in SOC SCI 2E03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES if the topic was The Structure of the Family and the Role of Women in Historical and Contemporary Society.
(See Note 3 above.)

SOC SCI 2R03  WOMEN AND WORK IN CANADA
The life cycle of contemporary women, the increased integration into the labour force and the impact this has had upon their traditional roles as wife and mother will be discussed. The experiences of women will be interfaced with those of men.
Three hours (lectures and discussion); one term
Not open to students with credit in SOC SCI 2F03 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES if the topic was Women and Work in Canada.
(See Note 3 above.)

SOC SCI 3F00  FULL-TIME INTERNSHIP
Full-time, non-credit, paid work opportunities on four, eight, 12 month and 12 month duration allowing students to explore careers, develop employability skills and make important contacts for job searches.
Normally 30 to 35 hours per week
Prerequisite: Registration in a program in the Faculty of Social Sciences and credit or registration in SOC SCI 2E00; and permission of the Career Development Coordinator.
SOC SCI 3F00 may be repeated.
SOC SCI 3IP0  PART-TIME INTERNSHIP
Part-time, non-credit, paid work opportunities of four, eight, or 12 month duration allowing students to explore careers, develop employability skills and make important contacts for job searches.
Normally 5 to 10 hours per week
Prerequisite: Registration in a program in the Faculty of Social Sciences; and credit or registration in SOC SCI 2EL0; and permission of the Career Development Coordinator
SOC SCI 3IS0  INTERNSHIP
Full-time, non-credit, paid work opportunities normally lasting four months during the Spring/Summer Session allowing students to explore careers, develop employability skills and make important contacts for job searches. Students selected to complete a McMaster Summer or NSERC USRA may use this experience toward a Summer Internship.
Normally 30 to 35 hours per week
Prerequisite: Registration in a program in the Faculty of Social Sciences; and credit or registration in SOC SCI 2EL0; and permission of the Career Development Coordinator
SOC SCI 3MP3  COMMUNITY LEADERSHIP IN SPORT AND PHYSICAL ACTIVITY
This placement course provides the essential links between classroom knowledge and professional practice. Working with special needs populations, children, adolescents, adults and the elderly, students will experience the challenges faced by community agencies that deliver sport and physical activity programs.
Placement experience equivalent to one day per week (60 hrs.), seminars; one term
Prerequisite: Credit or registration in KINESIOL 3M03 and registration in Level III or above
Antirequisite: KINESIOL 3MP0, 3MP3
Not open to students with credit or registration in KINESIOL 4EE3 if the placement is in the area of coaching or leadership.
This course is administered by the Department of Kinesiology.

SOCIAL WORK
WEB ADDRESS:  http://www.socsci.mcmaster.ca/socwork/
Kenneth Taylor Hall, Room 319
Ext. 23795

Faculty of January 15, 2007

Director
Jane Aronson

Professors
Jane Aronson/B.Sc. (New University of Ulster), B.S.W., M.S.W. (McGill), Ph.D. (Toronto)
Roy Cain/B.S.W., M.S.W., Ph.D. (McGill)
William Gladstone/B.A. (McGill), M.S.W. (British Columbia), Ph.D. (Toronto)

Adjunct Professor
Christine Walsh (Calgary) B.Sc., M.Sc. (Guelph), M.S.W. (McMaster), Ph.D. (Toronto)

Associate Professors
Donna Baines/Labour Studies) B.S.W. (Calgary), M.S.W. (Ottawa), Ph.D. (Toronto)
Patricia M. Daenzer/B.A., B.S.W. (York), M.S.W., Ph.D. (Toronto)
L. William Lee/B.A. (St. Thomas, Texas), M.S.W., Adv. Dip. S.W., Ed.D. (Toronto)
Sheilla Sammon/B.A. (Nazareth College, New York), M.S.W. (Toronto)

Assistant Professors
Gary C. Dumbrell/B.Sc. (South Bank, London), M.S.W. (York), Ph.D. (Toronto)
Christina Sinding/Health, Aging and Society) B.A. (Western Ontario), M.A. (McMaster), Ph.D. (Toronto)
Y. Rachel Zhou/B.A. (Institute or Globalization and the Human Condition), LLM (Wuhan, China), M.A., Ph.D. (Toronto)

Lecturers
Mirna E. Carranza/B.S.W. (University of El Salvador), M.T.S (Wilfrid Laurier)
Rick Sin/B.S.W. (Hong Kong Baptist, M.S.W. (McGill)

Associate Members
Karen A. Balcom (History), B.A. (Carleton), M.A. (Dalhousie), Ph.D. (Rutgers)
Robert D. Wiltse/Geography and Earth Sciences) B.A. (Hull), M.A., Ph.D. (Southern California)

Practice Instructors
Janice Chaplin/B.A. (Mount Allison), B.S.W., M.S.W. (McMaster)
Mark Fraser/B.A. (Acadia), B.S.W. (McMaster), M.S.W. (Toronto)
Niki Genin-Faibisovitch/B.A. (Winnipeg), B.S.W. (McMaster), M.S.W. (Toronto)
Patricia Grobman-Spencer/B.S.W. (San Diego), M.S.W. (McMaster)
Gordon Greenway/B.A., M.S.W. (Carleton)
Liz Lamb/B.A., B.S.W. (McMaster), M.S.W. (Carleton)
Maxine Lane/B.A., B.S.W. (McMaster), M.Ed. (Brock)
Kelly Lazure-Valcini, B.A., B.S.W. (McMaster), M.S.W. (York)
John Medeiros/B.A. (Ottawa), M.S.W. (Toronto)
Jennifer Penton/B.S.W. (Memorial), M.S.W. (Carleton)
Anna Marie Pietrantonio/B.A. (McMaster), M.S.W. (Toronto)
Malcolm Powell/B.A., B.S.W., M.S.W. (McMaster)
Sandy Rowan/B.A. (Concordia), B.S.W., M.S.W. (McGill)
Brenda Symons-Moulin/B.A., B.S.W. (McMaster), M.S.W. (Wilfrid Laurier)
Helen Tobias/B.A., B.S.W. (McMaster), M.S.W. (Wilfrid Laurier)
Karen Van Dyke/B.A. (Dordt College), M.S.W. (SUNY-Buffalo)

School Notes:
1. SOC WORK 1A06 is available to all students.
2. With the exception of SOC WORK 4A03, the following courses are available for elective credit for students enrolled in Level III or above of a non-Social Work program. SOC WORK 1A06 is a prerequisite. Space for such students is limited and places are assigned on a first come basis.
3. SOC WORK 3A03 Social Aspects of Health and Illness
4. SOC WORK 3H03 Justice and Social Welfare
5. SOC WORK 3K03 Human Sexuality in Social Context
6. SOC WORK 4B03 Adult Family Violence
7. SOC WORK 4C03 Racism and Social Marginalization in Canadian Society
8. SOC WORK 4G03 Selected Topics
9. SOC WORK 4H03 Social Work and Indigenous Peoples
10. SOC WORK 4I03 Social Change: Social Movements and Advocacy
11. SOC WORK 4L03 Social Work with an Aging Population
12. SOC WORK 4L03 Inquiry into Anti-Oppression: Facilitating the Dialogue
13. SOC WORK 4R03 Social Work with Women
14. SOC WORK 4U03 Immigration, Settlement and Social Work
15. SOC WORK 4W03 Child Welfare
16. SOC WORK 4Y03 Critical Issues in Mental Health and Addiction

Courses
All courses are open only to Social Work students unless otherwise specified. (See Notes 1 and 2 above.)

SOC WORK 1A06  INTRODUCTION TO SOCIAL WORK
General introduction to the values, perspectives, ideologies, settings and methods of social work within the broad field of social welfare. This course combines a practical and theoretical orientation to the field. Lectures and discussions; two terms (See Note 1 above.)

SOC WORK 2A06  THEORY, PROCESS AND COMMUNICATION SKILLS FOR SOCIAL WORK
Knowledge, value base and intervention methods of social work practice; basic skill development in interpersonal communication and interviewing. Lectures, discussions, exercises; two terms
Antirequisite: SOC WORK 2C03, 2605, 2B03

SOC WORK 2B03  SOCIAL WELFARE: GENERAL INTRODUCTION
Purpose, values underly development of social welfare programs; Canada's social security system in historical perspective. Lectures, discussion; one term
Cross-list: LABR ST 2B03
Antirequisite: SOC WORK 2B06

Students in a Social Work program must register for this course as SOC WORK 2B03.
SOC WORK 2BB3  SOCIAL WELFARE: ANTI-OPPRESSIVE POLICIES AND PRACTICES IN SOCIAL WORK
Exploration and analysis of systematic patterns of oppression, their relationships to social policies and practices and the implications for social work through a variety of instruction including experiential exercises. Topics could include: race, gender, disability, sexual orientation. Exercises, lectures, discussion; one term
Cross-list: LABR ST 2BB3 Antirequisite: SOC WORK
Students in a Social Work program must register for this course as SOC WORK 2BB3.

SOC WORK 2E03  HUMAN GROWTH AND DEVELOPMENT IN THE SOCIAL ENVIRONMENT
Human development throughout the life span with emphasis on the interaction between the personal and social contexts and social work concerns at each developmental stage. Lectures, discussion; one term
Antirequisite: SOC WORK 3N03, 3R03, 4N03

SOC WORK 3C03  SOCIAL ASPECTS OF HEALTH AND ILLNESS
Exploration of the meaning of health and sickness in our society. Organization and delivery of health care. Consideration of ethical and other issues. Lectures, discussion and selective use of community resources; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 3D06  GENERAL SOCIAL WORK I
Social work intervention processes; interviewing; development of basic skills in formation of relationships with individuals, families, groups and communities. Seminars, workshops; two terms
Option of equivalent summer block in combination with SOC WORK 3D06 (summe). Priority for summer block given to B.S.W. students.
Prerequisite: SOC WORK 2B06 or both SOC WORK 2B03 and 2BB3; and SOC WORK 2A06 or both SOC WORK 2C03 and 2D03; and PSYCH 2A03 or SOC WORK 2E03 Corequisite: SOC WORK 3D06 Antirequisite: SOC WORK 3D09 Credit in this course is dependent on achieving a minimum grade of C+ and a Pass in SOC WORK 3D06.

SOC WORK 3D06  FIELD PRACTICUM I
Field practicum to develop basic intervention and interviewing skills, particularly in the formation of relationships with individuals, families, groups and communities. Students participate in defining learning goals and experiences. This course is evaluated on a Pass/Fail basis.
Field experience equivalent to 15 hours per week; two terms
Option of equivalent summer block placement in combination with SOC WORK 3D06 taken in the summer. Priority for summer block given to B.S.W. students.
Prerequisite: SOC WORK 2B06 or both SOC WORK 2B03 and 2BB3; and SOC WORK 2A06 or both SOC WORK 2C03 and 2D03; and PSYCH 2A03 or SOC WORK 2E03 Corequisite: SOC WORK 3D06 Credit in this course is dependent on receiving a Pass and a minimum grade of C+ in SOC WORK 3D06.

SOC WORK 3H03  JUSTICE AND SOCIAL WELFARE
Human rights and the role of law in enhancing civil liberties in Canada. Social work, law and social change. Study of selected issues and review of administrative discretion. Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 3D06  FIELD PRACTICUM II
Field experience to refine practice skills. Students spend the equivalent of two days per week in social agencies, or with other organizations, in supervised practice.
This course is evaluated on a Pass/Fail basis.
Option of equivalent block placement in combination with SOC WORK 4D06.
Prerequisite: SOC WORK 3D06, 3D09 Corequisite: SOC WORK 4D06 Antirequisite: SOC WORK 4D12 Credit in this course is dependent on achieving a minimum grade of C+ and a Pass in SOC WORK 4D06.

SOC WORK 4B03  ADULT FAMILY VIOLENCE
To assist students in acquiring knowledge and perspectives concerning social policy issues pertaining to adult violence with emphasis on violence against women.
Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
Not open to students with credit or registration in SOC WORK 4203
SELECTED ISSUES IN SOCIAL WELFARE POLICY, if the issue was Family Violence.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4G03  RACISM AND SOCIAL MARGINALIZATION IN CANADIAN SOCIETY
This course involves critical analysis of the construction of social relations in Canadian society. Students will have the opportunity to examine variables such as race, ethnicity and cultural specificity in the social inscription and adaptation process.
Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
Not open to students with credit or registration in SOC WORK 4203
SELECTED ISSUES IN SOCIAL WELFARE POLICY, if the issue was Racial and Cultural Issues in Canadian Welfare.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4D06  GENERAL SOCIAL WORK II
Seminars to deepen understanding and further develop practice skills.
Two terms
Option of equivalent block placement in combination with SOC WORK 4D06.
Prerequisite: SOC WORK 3D06, 3D09 Corequisite: SOC WORK 4D06 Antirequisite: SOC WORK 4D12 Credit in this course is dependent on achieving a minimum grade of C+ and a Pass in SOC WORK 4D06.

SOC WORK 4D06  FIELD PRACTICUM II
Field experience to refine practice skills. Students spend the equivalent of two days per week in social agencies, or with other organizations, in supervised practice.
This course is evaluated on a Pass/Fail basis.
Option of equivalent block placement in conjunction with SOC WORK 4D06.
Prerequisite: SOC WORK 3D06, 3D09 Corequisite: SOC WORK 4D06 Credit in this course is dependent on receiving a Pass and a minimum grade of C+ in SOC WORK 4D06.

SOC WORK 4G03  SELECTED TOPICS
Critical examination of social work practice in respect to selected social issues. Topics will vary from year to year and the School should be consulted for details for any particular year.
Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
SOC WORK 4G03 may be repeated, if on different topics.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 3003  HUMAN SEXUALITY IN SOCIAL CONTEXT
Basic information on anatomy, physiology, psychology and sociology of sexuality and fertility. Attitudinal self-awareness, communication skills, values regarding sexual identity and roles; analysis of policy issues.
Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4G03  SELECTED TOPICS
Critical examination of social work practice in respect to selected social issues. Topics will vary from year to year and the School should be consulted for details for any particular year.
Seminars; one term
Prerequisite: Registration in a Social Work program; or SOC WORK 1A06 and registration in Level III or above of any program
SOC WORK 4G03 may be repeated, if on different topics.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.
SOC WORK 4103  SOCIAL WORK AND INDIGENOUS PEOPLES
Examination of structural and cultural variables underlying the complex relationships between Indigenous communities and mainstream society, with particular attention to how they are played out in social work practice. Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
Not open to students with credit in SOC WORK 4G03 if the topic was Social Work and Indigenous Peoples.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4J03  SOCIAL CHANGE: SOCIAL MOVEMENTS AND ADVOCACY
Critical examination of the meaning of social change as a concept and event. Review of strategies of social change and of attempts to effect social change. Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4L03  SOCIAL WORK WITH AN AGING POPULATION
Analysis of the context of aging within Canadian society; examination of selected themes related to social welfare policies and models of social work practice with the elderly. Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
Antirequisite: GERONTOL 4S03, POL SCI 4A03, SOC WORK 4A03, 4V03.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4Q03  SOCIAL WORK WITH COMMUNITIES
Analysis of major community work strategies, historical antecedents, current developments and future potential in Canada. Student participation in the analysis of a community project is expected. Seminars; one term.
Prerequisite: Credit or registration in SOC WORK 3D06 and 3DD6, or permission of the instructor.

SOC WORK 4Q93  INQUIRY INTO ANTI-OPPRESSION: FACILITATING THE DIALOGUE
The study of anti-oppression policies and practice combined with practical application in the form of facilitating small group discussions that focus on issues of social justice.
Seminars, discussion, exercises; one term.
Prerequisite: SOC WORK 3D06, 3DD6, and permission of the instructor.

SOC WORK 4R03  SOCIAL WORK WITH WOMEN
Critical examination of the potential of social policies and programs, community organizations and service practices to challenge women's systemic disadvantage and enhance women's welfare.
Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
Antirequisite: SOC WORK 4E03, 4T03.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4U03  IMMIGRATION, SETTLEMENT AND SOCIAL WORK
Examination of social and political factors impacting the lives of immigrants and refugees as they settle in Canada; critical assessment of social work responses.
Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
Not open to students with credit in SOC WORK 4G03 if the topic was immigration and Settlement.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4W03  CHILD WELFARE
This course analyzes the Canadian child welfare system, its policies and programs and teaches skills for working with children, families and substitute caregivers.
Lectures, discussions, skills development; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.

SOC WORK 4X03  SOCIAL WORK WITH FAMILIES
Examination of relevant aspects of family theory for social work practice: models of family intervention.
Seminars; one term.
Prerequisite: Credit or registration in SOC WORK 3D06 and 3DD6, or permission of the instructor.
Antirequisite: SOC WORK 3M03.

SOC WORK 4Y03  CRITICAL ISSUES IN MENTAL HEALTH AND ADDICTION
A critical review of selected theoretical perspectives and contemporary issues in mental health and addiction; examination of implications for social work research and practice.
Seminars; one term.
Prerequisite: Registration in a Social Work program, or SOC WORK 1A06, and registration in Level III or above of any program.
Not open to students with credit in SOC WORK 4G03 if the topic was Mental Health and Addiction.
This course may be taken as elective credit by undergraduates in Level III or above of a non-Social Work program who have completed SOC WORK 1A06.
A survey of the areas of research which interest the sociologist. Interpretation of human action from the standpoint of the group. Two lectures, one tutorial, two terms

**SOClOL 2C06** **DEVIANT BEHAVIOUR**
An analysis of deviant behaviour and conformity in relation to social structure and processes, and a discussion of problems of control within the social system.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06
Priority will be given to students registered in a Sociology program.

**SOClOL 2D06** **THE HUMAN GROUP**
An examination of the individual in social interaction, with emphasis upon the relationships among individuals, social interaction and social structure.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06

**SOClOL 2E06** **RACIAL AND ETHNIC GROUP RELATIONS**
The course deals with the study of racial and ethnic group relations in Canada and the United States.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06

**SOClOL 2P06** **SOCIOLOGY OF EDUCATION**
A comprehensive analysis of educational institutions in modern society.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06
Priority will be given to students registered in a Sociology program.

**SOClOL 2Q06** **SOCIOLOGY OF GENDER**
A theoretical and empirical examination of gender differences and gender inequalities with a focus on women's experiences.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06
Priority will be given to students registered in a Sociology program.

**SOClOL 2R03** **PERSPECTIVES ON SOCIAL INEQUALITY**
This course will introduce the student to major theories of social inequality, such as the Maxvian, Weberian and structural-functionalist perspectives.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Antirequisite: SOCIOL 2R06

**SOClOL 2R03** **CASE STUDIES OF SOCIAL INEQUALITY**
This course will introduce the student to the empirical literature on social inequality. Depending on the year, the focus will be on class, status, power and elites: income, education, region, age, gender and race/ethnicity.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Antirequisite: SOCIOL 2R06

**SOClOL 2S06** **INTRODUCTION TO SOCIOLOGICAL THEORY**
An introduction to the foundations, rise and development of sociological theory.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06 and registration in a Sociology program
Antirequisite: SOCIOL 2S06, 3A06

**SOClOL 2T03** **SOCIOLOGY OF SPORT**
This course provides a detailed theoretical and empirical examination of how sport is culturally organized, experienced and mediated.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 1A06
Antirequisite: KINESIOL 1H03, 3P03
Not open to students with credit or registration in SOCIOL 3J03 if the topic was Sociology of Sport.
Priority will be given to students registered in a Sociology program.

**SOClOL 2U06** **SOCIOLOGY OF THE FAMILY**
An analysis of kinship and family units in comparative, historical, and contemporary perspective.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06
Priority will be given to students registered in a Sociology program.

**SOClOL 2V06** **OCCUPATIONS AND PROFESSIONS**
An examination of the occupational structure of industrial society, the changing nature of work, and problems associated with such change.
Three hours (lectures and discussion); two terms
Prerequisite: SOCIOL 1A06

**SOClOL 2Z03** **INTRODUCTION TO SOCIOLOGICAL RESEARCH**
This course is designed to develop the skills necessary to pursue and understand research. Several general methods of sociological research will be examined.
Three hours (lectures and discussion); one term
Prerequisite: Registration in a Sociology or Social Work program
Antirequisite: ANTHROPOLOGY 2Z03, CMST 2A03, GEO 2H03, GERONTOL 2C03, HEALTHST 2B03

**SOClOL 3A03** **EUROPEAN SOCIOLOGICAL THEORY**
An advanced examination of classical and contemporary European sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOL 2S06 and registration in Level III or IV of an Honours Sociology program
The Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOL 3P03 or 3P03.

**SOClOL 3B03** **SELECTED TOPICS IN THE SOCIOLOGY OF EDUCATION**
An examination of selected topics in the sociology of education.
Three hours (lectures and discussion); one term
Prerequisite: At least 18 units of Sociology. SOCIOL 2P06 is strongly recommended.
Prerequisite (Beginning 2007-2008): SOCIOL 2P06
SOCIOL 3B03 may be repeated, if on a different topic, to a total of six units.
SOCIOLOGY

SOCIOLOGY 3C03 MEDIA AND SOCIAL ISSUES
An analysis of the relationships between mass media and modern society. Topics may include ideology and agenda-setting in the media, representations of social problems (e.g., homelessness, violence), moral panics, media scandals, or public ceremonies.
Three hours (lectures); one term
Prerequisite: Registration in Level III or above of a Communication Studies program; or SOCIOLOGY 2L03 and registration in a Sociology program
Cross-list: CMST 3C03

SOCIOLOGY 3GG3 SOCIOLOGY OF THE FAMILY AND THE LIFE CYCLE
An advanced course allowing detailed study of the family and the life cycle. Special attention will be paid to the mid and later years.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 2U06 or registration in a Combined Honours Sociology and Gerontology program
Antirequisite: GERONTOL 3M03.

SOCIOLOGY 3D03 SPECIAL TOPICS IN THE SOCIOLOGY OF THE FAMILY
An advanced course allowing detailed study of selected topics in the sociology of the family.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 2U06
SOCIOLOGY 3D03 may be repeated, if on a different topic, to a total of six units.
Priority will be given to students registered in a Sociology program.

SOCIOLOGY 3P03 SOCIOLOGY OF HEALTH CARE
Selected issues concerning forms of providing health care.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
Priority will be given to students registered in a Sociology program.

SOCIOLOGY 3G03 SPECIAL TOPICS IN THE SOCIOLOGY OF DEVIANCE
An advanced course allowing detailed study of selected topics in the Sociology of Deviance. Topics will vary from year to year.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 2C06
SOCIOLOGY 3G03 may be repeated, if on a different topic, to a total of six units.
Priority will be given to students registered in a Sociology program.

SOCIOLOGY 3H03 RESEARCH TECHNIQUES AND DATA ANALYSIS
A comprehensive introduction to statistical principles of research design and data analysis in the social sciences.
Three hours (lectures and labs); two terms
Prerequisite: Registration in any program in Sociology. Students in Honours Anthropology, Gerontology and Labour Studies will have second priority.
Not open to students with credit or registration in any six units of Research Methods as prescribed by all other Social Sciences programs;
SOCIOLOGY 2Y03; all Statistics courses except STATISTICS 1A03, 1L03, 2D03, 2P03, 3S03, 3U03, 4H03.

SOCIOLOGY 3H03 SOCIOLOGY OF HEALTH
Sociological approaches to the study of health and illness.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
Priority will be given to students registered in a Sociology program.

SOCIOLOGY 3J03 SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS I
An examination of selected topics of contemporary interest to sociologists. Students should consult the Department concerning the topics to be examined.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
SOCIOLOGY 3J03 may be repeated, if on a different topic, to a total of six units.

SOCIOLOGY 3K03 SPECIAL TOPICS IN SOCIOLOGICAL ANALYSIS II
Same as SOCIOLOGY 3J03.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
SOCIOLOGY 3K03 may be repeated, if on a different topic, to a total of six units.

SOCIOLOGY 3K03 GENOCIDE: SOCIOLOGICAL AND POLITICAL PERSPECTIVES
An examination of genocide and other extreme crimes against humanity.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level III or above
Cross-list: POL SCI 3K03
Antirequisite: SOC SCI 2G03
Priority will be given to students registered in a Political Science or Sociology program.
This course is administered by the department of Political Science.

SOCIOLOGY 3J03 SOCIOLOGY OF WORK AND LABOUR MARKETS
A consideration of the manner in which labour markets are structured and how they influence the access that people have to employment.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06

SOCIOLOGY 3P03 QUALITATIVE RESEARCH METHODS
This course will provide a detailed study of selected qualitative methods in Sociology.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Honours Sociology
Antirequisite: GERONTOL 3P03
The Department of Sociology guarantees that all Level III and Level IV Honours Sociology students will have access to either this course, or 3W03.

SOCIOLOGY 3A06 AMERICAN SOCIOLOGICAL THEORY
An advanced examination of classical and contemporary American sociological theory.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 2S06 and registration in Level III or IV of an Honours Sociology program
Antirequisite: SOCIOLOGY 3A06
Alternates with SOCIOLOGY 3P03.
The Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOLOGY 3A03 or 3P03.

SOCIOLOGY 3P03 CANADIAN SOCIOLOGICAL THEORY
An examination of the more or less unique contributions of English Canadians to sociological theory. Emphasis is on the Toronto school, and its left-nationalist progeny and critics.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 2S06 and registration in Level III or IV of an Honours Sociology program
Alternates with SOCIOLOGY 3P03.
The Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, SOCIOLOGY 3A03 or 3P03.

SOCIOLOGY 3U03 SOCIOLOGY OF SEXUALITIES
An exploration of the social aspects of sexuality and consideration of how sexual experiences are shaped by, and interpreted through, historically specific social contexts.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06. SOCIOLOGY 3Q06 is strongly recommended.
Priority will be given to students registered in a Sociology program.

SOCIOLOGY 3W03 HISTORICAL METHODS IN SOCIOLOGY
An examination of methods for incorporating historical data and archival sources into sociological argument.
Three hours (seminar and discussions); one term
Prerequisite: Registration in Honours Sociology
The Department of Sociology guarantees that all Level III and IV Honours Sociology students will have access to either this course, or 3S03.

SOCIOLOGY 3X03 SOCIOLOGY OF AGING
This course deals with changing population structure, economic support of the aged, family of later life, the sociology of retirement, widowhood, death, bereavement, and institutionalization.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
Not open to students registered in a Gerontology program as of September 1998.
Priority will be given to students registered in a Gerontology program as of September 1998.

SOCIOLOGY 3Z03 ETHNIC RELATIONS
An analysis of political, social and economic change in selected locales.
Three hours (lectures and discussion); one term
Prerequisite: SOCIOLOGY 1A06
Priority will be given to students registered in a Sociology program.
SOCLOL 4A03 ETHNIC/RACIAL TENSIONS
The course will investigate the processes by which racial and/or ethnic tensions develop in various societies.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

SOCLOL 4AA3 SELECTED TOPICS IN THE SOCIOLOGY OF THE FAMILY
An intensive examination of selected problems in the sociology of the family.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
Not open to students with credit in SOCLOL 4G3 if on a similar topic.
SOCLOL 4AA3 may be repeated, on a different topic, to a total of six units.

SOCLOL 4BB3 SELECTED TOPICS IN THE SOCIOLOGY OF EDUCATION
This advanced course offers an intensive examination of selected problems involving the relationship between schooling and society.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
Not open to students with credit in SOCLOL 4G3 if on a similar topic.

SOCLOL 4BB3 may be repeated, on a different topic, to a total of six units.

SOCLOL 4B03 PERSPECTIVES ON SOCIOLOGICAL THEORY
A discussion of various sociological and non-sociological critiques of sociological theory.
Three hours (seminar); one term
Prerequisite: SOCLOL 2506 and registration in Level IV Honours Sociology

SOCLOL 4E03 SELF AND IDENTITY
A consideration of theoretical and empirical questions relating to self and identity viewed from historical, cross-cultural and cross-disciplinary perspectives.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

SOCLOL 4EE3 SELECTED TOPICS IN THE SOCIOLOGY OF CULTURE
A sociological examination of topics related to the production, dissemination, consumption and/or interpretation of culture. Community service learning may be a component of this course.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
SOCLOL 4EE3 may be repeated, if on a different topic, to a total of six units.

SOCLOL 4G03 ADVANCED TOPICS IN THE SOCIOLOGY OF HEALTH AND ILLNESS
An examination of the social bases of illness. In different years consideration may be given to topics such as gender, social class and occupational and environmental health issues.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

SOCLOL 4GG3 SPECIAL TOPICS IN THE SOCIOLOGY OF DIVINANCE
An advanced course allowing detailed study of selected topics in the Sociology of Deviance. Topics will vary from year to year.
Three hours (seminar); one term
Prerequisite: SOCLOL 2C06 and registration in Level IV Honours Sociology
SOCLOL 4GG3 may be repeated, if on a different topic, to a total of six units.

SOCLOL 4J03 SELECTED TOPICS IN SOCIOLOGY I
Topics of contemporary interest to sociologists, with emphasis upon current theory and research. Students should consult the Department concerning the topics to be examined.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
SOCLOL 4J03 may be repeated, if on a different topic, to a total of six units.

SOCLOL 4J3 SOCIOLOGY OF CYBERSPACE/INTERNET
The purpose of this course is to examine the economic, political, and social organization of the Internet, and its social effects, in such areas as education, work, and leisure.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

Note: Students entering this course should be well-versed in basic Internet navigation skills, such as the use of email, usenet, Listservs, and the World Wide Web. Such skills are required to complete the research paper using internet electronic sources of information.

SOCLOL 4K03 SELECTED TOPICS IN SOCIOLOGY II
Topics of contemporary interest to sociologists, with emphasis upon current theory and research. Students should consult the Department concerning the topics to be examined.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
SOCLOL 4K03 may be repeated, if on a different topic, to a total of six units.

SOCLOL 4M03 DIRECTED RESEARCH I
For Honours Students
Directed study of a research problem through published materials and/or field inquiry and/or data analysis. Students will be required to write up the results of their inquiry in scholarly form.
One term
Prerequisite: Registration in Level IV Honours Sociology and permission of the instructor

SOCLOL 4MM6 DIRECTED RESEARCH II
For Honours Students
Directed study of a research problem through published material and/or field inquiry and/or data analysis. Students will be required to write up the results of their inquiry in scholarly form.
Two terms
Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the Department.

SOCLOL 4N03 DIRECTED RESEARCH FOR HONOURS STUDENTS
Same as SOCLOL 4M03.
One term
Prerequisite: Registration in Level IV Honours Sociology. Students wishing to register in this course must seek the permission of the instructor.

SOCLOL 4PP3 ISSUES IN THE SOCIOLOGY OF AGING
A study of selected issues in the sociology of aging such as sociodemographic changes, changes in the family, social and health services, retirement, political economy, and theoretical approaches in aging.
Three hours (seminar); one term
Prerequisite: GERONTOL 1A03 or SOCLOL 3X03; and registration in Level IV Honours Sociology.
Antirequisite: GERONTOL 4K03, SOCLOL 4P3

SOCLOL 4R03 INDIVIDUAL AND SOCIETY
An intensive examination of selected problems involving the relationship of individuals to social structures.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

SOCLOL 4U03 SPECIAL TOPICS IN THE SOCIOLOGY OF WOMEN
An intensive examination of selected problems concerning women. Depending upon the instructor, topics may include: stratification, inequality, political participation, sexuality, health and work.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology
SOCLOL 4U03 may be repeated, if on a different topic, to a total of six units.

SOCLOL 4V03 ISSUES IN THE SOCIOLOGY OF OCCUPATIONS AND THE PROFESSIONS
An advanced course allowing detailed study of one or more topics of special interest.
Three hours (seminar); one term
Prerequisite: Registration in Level IV Honours Sociology

SOFTWARE ENGINEERING
(SEE COMPUTING AND SOFTWARE)

SPANISH
(SEE LINGUISTICS AND LANGUAGES, HISPANIC STUDIES)

STATISTICS
(SEE MATHEMATICS AND STATISTICS)
AUTOTECH 2MT3  THERMAL SYSTEMS
Thermodynamic principles; heat engines; gas turbine cycles; air conditioning; conductive, convective and radiative heat transfer, heat transfer coefficients, heat exchangers, vehicle thermal management components and systems.
Three lectures, one lab (three hours); one term
Prerequisite: AUTOTECH2AE3, ENG TECH 1CH3, 1PH3, 2MA3

AUTOTECH 3AE3  AUTOMOTIVE ENGINEERING TECHNOLOGY II
Spark ignition engines; diesel engines, transmissions and driveline; steering systems and dynamics; suspensions; brakes; tires; vehicle aerodynamics, transmission matching and vehicle performance; alternative vehicles; case studies.
Three lectures, one lab (two hours); one term
Prerequisite: AUTOTECH2AE3, 2TS3

AUTOTECH 3AV3  ALTERNATE VEHICULAR POWER SYSTEMS
Alternate vehicular power systems: hybrid and fuel cell technology. Current and future vehicular power train design changes and their implications and commercial viability.
Three lectures, one lab every other week (three hours); one term
Prerequisite: AUTOTECH3AE3

AUTOTECH 4AE3, 4EC3, 4MS3  AUTOMOTIVE ENGINEERING TECHNOLOGY IV
Automotive manufacture and assembly; automotive testing; research methods and design of experiments, diagnostics, ergonomics, vehicle acoustics; vehicle safety and accident analysis; standards for safety and emissions; environmental assessment.
Three lectures; one term
Prerequisite: AUTOTECH4AE3, 4EC3, 4MS3
BIOTECH 2BC3 BIOCHEMISTRY
Biochemistry and biotechnology: amino acids, nucleotides, nucleic acids, proteins, peptides, enzymes, carbohydrates, lipids, membranes and their functions, metabolism, gene expression and DNA.

Three lectures; one term
Prerequisite: BIOTECH 20C3

BIOTECH 2BT3 BIOTECHNOLOGY II
A continuation of Biotechnology I, which includes a more in depth examination of selected topics from the first level course. Topics include biotechnology applications in immunology, medical biotechnology, plant biotechnology and animal biotechnology.

Three lectures, one lab (three hours); one term
Prerequisite: ENG TECH 1B3, 1CH3

BIOTECH 2BC3 CELL BIOLOGY
An introduction to basic living cell structure, functions, genetics and the fundamentals of metabolism.

Three lectures, one lab (three hours every other week); one term
Prerequisite: ENG TECH 1B3, 1CH3

BIOTECH 2GT3 GENETICS
This course covers the fundamentals of genetic studies including genes and genetic code, DNA, RNA and protein synthesis, cellular reproduction and human genetics.

Three lectures; one term
Prerequisite: BIOTECH 2BE3, 2CB3

BIOTECH 2MB3 MICROBIOLOGY
An introduction to microbiological analysis with emphasis on use of microscopic techniques, staining, cultivation and control of microbial growth, enumeration, identification, potable water analysis, with environmental and industrial applications.

Three lectures, one lab (three hours); one term
Prerequisite: BIOTECH 2BE3, 2CB3

BIOTECH 2OC3 ORGANIC CHEMISTRY
This course covers a working knowledge of the major classes of organic compounds, including their physical and chemical properties. The laboratory introduces the techniques of organic synthesis and identification.

Three lectures, one lab (three hours); one term
Prerequisite: ENG TECH 1CH3

BIOTECH 3BP3 BIOREACTOR PROCESSES
An overview of fermentation technology and bioprocessing, including the kinetics and thermodynamics of microbial processes and fermentation. Batch and continuous fermentation, bioreactor design, operation and control, scale up, as well as bioprocess development.

Four lectures; one lab (three hours); one term
Prerequisite: BIOTECH 2BT3, 3EC3, ENG TECH 1EL3

BIOTECH 3EC3 CHEMICAL ENGINEERING CONCEPTS
This course provides an introductory survey of chemical engineering concepts. The topics covered are: material and energy balances; survey of momentum, heat and mass transfer; basics of chemical process design.

Three lectures, one lab (two hours every other week); one term
Prerequisite: ENG TECH 1CH3, 1MT3, 1PH3

BIOTECH 3FM3 FOOD MICROBIOLOGY
An introduction to the microbiology of raw materials used in the manufacturing of food products. The course will review microbial growth and examine the types of microorganisms found in foods, the fermentation process in foods and food borne illness.

Three lectures; one term
Prerequisite: BIOTECH 2BT3, 2CB3

BIOTECH 3FR3 FORENSICS
An introduction to the field of forensic biology, with applications to criminal forensics, paternity testing and forensic microbiology.

Three lectures, one lab (three hours every other week); one term
Prerequisite: BIOTECH 2BT3, 3MB3

BIOTECH 3IV3 IMMUNOLOGY AND Virology
Structure and function of antibodies, antibody diversity and interactions, immune system and immunity, immunological responses to disease, antibodies production and applications, structure of viruses, methods to study viruses, virus transcriptions and interactions.

Three lectures, one lab (three hours); one term
Prerequisite: BIOTECH 2GT3, 2MB3

BIOTECH 3MB3 MOLECULAR BIOLOGY
Principles of molecular biology with emphasis on nucleic acid based methodologies; gene manipulation, expression systems for proteins, protein interactions, DNA repair, recombination and transcription; RNA processing, translation and gene expression.

Three lectures, one lab (three hours); one term
Prerequisite: BIOTECH 2GT3, 2MB3

BIOTECH 3PM3 PHARMACOLOGY
Pharmacology topics include the nature of drugs, drug receptors, drug action, pharmacokinetics and pharmacodynamics. Topics on drug discovery include pre-clinical testing, clinical trials, manufacturing and patents.

Four lectures; one term
Prerequisite: BIOTECH 2BC3, ENG TECH 1B13

BIOTECH 4B3 BIOINFORMATICS
The course will familiarize students with the tools and principles of bioinformatics. A toolbox will be used to study access to genomic and proteomic data and data formats and analysis techniques.

Three lectures, one lab (three hours); one term
Prerequisite: BIOTECH 4GP3, ENG TECH 1CP3, 3ST3

BIOTECH 4BL3 BIOMATERIALS
Natural and synthetic biopolymers, and other materials for industrial and biomedical applications: biocompatibility; industrial products to include biomaterials, lubricants and adhesives; bioplastics, composites and applications.

Three lectures; one term
Prerequisite: BIOTECH 2BC3, 2BT3

BIOTECH 4BM3 BIOPHARMACEUTICALS
An introduction to biopharmaceutical drug development and manufacture. Emphasis will include basic genetic engineering principles used in the development and large-scale manufacture of biopharmaceutical products.

Three lectures; one term
Prerequisite: BIOTECH 3BP3, 3PM3
BIOTECH 4B3 BIOETHICS, SAFETY AND REGULATIONS
This course will familiarize students with current methods of laboratory safety and good lab and manufacturing practices in biotechnology, bioethics issues, benefits and risks of biotechnology applications; provincial, federal and international guidelines/regulations.
Three lectures; one term
Prerequisite: BIOTECH 3BP3, 3MB3

BIOTECH 4GP3 GENOMICS AND PROTEOMICS
This course examines genomics, functional genomics and proteomics. Topics covered are the organization of model system genomes, gene expression profiling at the mRNA and protein levels, microarrays, analyses of interactions, genomic and proteomic databases.
Three lectures, one lab (three hours); one term
Prerequisite: BIOTECH 2BT3, 3MB3

BIOTECH 4TR3 BIOENGINEERING III
This advanced course examines select topics of interest that reflect current methods utilized to produce new products and processes in the field of biotechnology. The course invites subject experts from various sectors of the biotech industry as guest lecturers.
Three lectures; one term
Prerequisite: BIOTECH 3BP3, 3FM3, 3FR3, 3PM3

CIVIL ENGINEERING INFRASTRUCTURE TECHNOLOGY...

Courses

CIV TECH 3BD3 BRIDGE DESIGN, MAINTENANCE AND REPAIR
Bridge elements, structural forms, design loads and required concrete and steel properties. Causes and mechanisms of damage in bridges and of methods of damage detection and assessment. Effective repair materials and maintenance strategies.
Three lectures; one term
Prerequisite: CIV TECH 3SA3, 4SD3

CIV TECH 3CS3 CONTAMINATED SITE MANAGEMENT
Theoretical and practical aspects of contaminated site management; regulatory compliance; basic hydrogeology and geochemical principles; site assessment procedures; risk assessment and risk management; remediation technologies.
Three lectures; one term
Prerequisite: CIV TECH 3GE3

CIV TECH 3FM3 FLUID MECHANICS
Fluid properties; hydrostatics; continuity, momentum and energy equations; potential flow; laminar and turbulent flow; flow in closed conduits, transients, open channel flow; hydraulic cross-sections.
Two lectures, one lab; one term
Prerequisite: ENG TECH 3MA3

CIV TECH 3FR3 INSPECTION AND FOUNDATION REPAIR
Investigation and evaluation of damaged foundations, analysis of causes and failure mechanisms; repair techniques and remedial measures; preventive measures; optimization of repair effectiveness.
Three lectures; one term
Prerequisite: CIV TECH 3GT3

CIV TECH 3GE3 GEOTECHNICAL ENGINEERING
Composition of soils, soil identification and classification; compaction; seepage theory; effective stress concept; stresses and displacements using elastic solutions; consolidation theory and settlement.
Two lectures, one lab; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 3GT3 GEOTECHNICAL ENGINEERING II
Shear strength characteristics and failure criteria for soils; direct shear, triaxial, plane strain and field tests; earth pressure theory; bearing capacity theory; slip stability and embankment analysis; borehole testing and interpretation.
Two lectures, one lab; one term
Prerequisite: CIV TECH 3GE3

CIV TECH 3LU3 ADVANCED LAND USE PLANNING
Management of land use; land development and redevelopment processes; infrastructure requirements; land reclamation; principles and practices of land use planning; legislation and regulations; public consultation; GIS applications.
Two lectures, one lab; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 3ND3 NON-DESTRUCTIVE TESTING METHODS
Theoretical and practical applications of NDT methods; application of NDT to specific problems of civil infrastructure, including monitoring of construction quality; COQ/C, in-service inspection, critical defect assessment, "fitness for purpose" assessments.
Two lectures, one lab; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 3PM3 PAVEMENT MATERIALS AND REHABILITATION
Properties of aggregates and soils, asphalt and Portland cement concrete, characterization and design of bituminous mixes, pavement rehabilitation; distress mechanisms; rehabilitation alternatives; construction techniques; preventative measures.
Two lectures, one lab; one term
Prerequisite: CIV TECH 3GE3, ENG TECH 3ML3

CIV TECH 3RM3 INSPECTION, REPAIR AND MAINTENANCE OF CONCRETE STRUCTURES
Causes, mechanisms, detection and assessment of damage in concrete structures; repair materials and techniques for damaged structures; long-term protection and maintenance strategies; repair effectiveness and cost comparisons; life-cycle cost analysis.
Three lectures; one term
Prerequisite: ENG TECH 3ML3

CIV TECH 3TP3 TRANSPORTATION PLANNING AND MODELLING
Fundamental theories and applications of transportation planning and modelling; short and long range transportation planning; traffic impacts of land development; trip generation and gravity models; software applications.
Two lectures, one lab; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 3UM3 UTILITIES MANAGEMENT
Introduction to utilities products and networks. Planning and management tools for utilities infrastructure, including inventory management, needs assessment, demand management and investment decisions.
Three lectures; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 3WT3 POTABLE WATER AND SEWER SYSTEMS REHABILITATION
Diagnostic tools to determine the condition of underground services; "no dig" or "trenchless" rehabilitation technologies; modes and types of failure.
Three lectures; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 4E13 ENVIRONMENTAL IMPACT AND SUSTAINABILITY
Introduction to ecology, natural and urban ecosystems; environmental impact assessment and legislation; energy and environmental audits; life cycle analysis; solid and hazardous wastes; air quality and control; sustainable infrastructure design; foot printing; sustainability indicators.
Three lectures; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology

CIV TECH 4E3S MODELLING OF ENGINEERING SYSTEMS
Mathematical models and systems; economic comparison of projects; linear and non-linear programming; simulation modelling; optimization; computer applications in civil engineering.
Two lectures, one lab; one term
Prerequisite: ENG TECH 3MN3

CIV TECH 4H3 MUNICIPAL HYDRAULIC SYSTEMS
Analysis and design of water distribution networks; analysis and design of wastewater collection systems; analysis and design of stormwater collection systems.
Two lectures, one lab; one term
Prerequisite: CIV TECH 3FM3
COMPUTING AND INFORMATION TECHNOLOGY ...

Courses

COMPTECH 3DS3 DATA STRUCTURES AND ALGORITHMS
- Commonly used abstract data types such as lists, stacks, queues, sets and trees and their applications and efficient implementations. Fast sorting, matching and graph algorithms. Algorithm analysis.
  One lecture (three hours); one term
  Prerequisite: CIV TECH 3SA3

COMPTECH 3ET3 ETHICS AND IT LAW
- A study of the impact of the technological revolution on our privacy; digitized information and legal and ethical issues surrounding computer technologies in the global marketplace.
  One lecture (three hours); one term
  Prerequisite: Registration in Computing/Information Technology

COMPTECH 3IA3 INTERNET APPLICATIONS
- A study of the relationship between applications, middleware and networking infrastructure technologies.
  One lecture (two hours), one lab; one term
  Corequisite: COMPTECH 3NT3

COMPTECH 3IN3 INQUIRY I (INDIVIDUAL)
- Inquiry-based course in which students investigate relevant IT problems, formulate precise problem statements and propose documented and justified solutions.
  One lecture (three hours); one term
  Prerequisite: Registration in Computing Information Technology

COMPTECH 3IT3 NETWORKING I
- Network transport, physical and data link layers in cable-based and wireless LANs.
  One lecture (two hours), one lab; one term
  Prerequisite: Registration in Computing Information Technology

COMPTECH 3NT3 NETWORKING II
- Network security, firewalls, penetration testing, risk assessment and security auditing.
  One lecture (two hours), one lab; one term
  Prerequisite: Registration in Computing Information Technology

COMPTECH 3PD3 PROGRAMMING DESIGN I
- Programming in C, with event handling, using a visual programming language.
  One lecture (two hours), one lab; one term
  Prerequisite: Registration in Computing Information Technology

COMPTECH 3PR3 PROGRAMMING DESIGN II
- Encapsulation, inheritance, polymorphism, operator overloading, friends, specialized built-in classes using C++ and Java.
  One lecture (two hours), one lab; one term
  Prerequisite: COMPTECH 3PD3

COMPTECH 3RQ3 REQUIREMENTS IN SYSTEMS ANALYSIS
- Requirements gathering, documentation and validation for computer systems. Estimating costs and resource requirements.
  One lecture (three hours); one term
  Prerequisite: Registration in Computing Information Technology

COMPTECH 4AP3 ASSAMBER PROGRAMMING
- Computer architecture and assembler language. Low-level representation of control and data structures. Hardware interfaces. Interfacing to high-level languages.
  One lecture (two hours), one lab; one term
  Prerequisite: COMPTECH 3PD3

COMPTECH 4RQ3 CLUSTER COMPUTING
- Design and implementation of cluster-based systems with particular emphasis on performance, fault tolerance and flexibility.
  One lecture (two hours), one lab; one term
  Prerequisite: COMPTECH 3NT3

COMPTECH 4DM3 DATA MINING
- Fundamental concepts of data mining; classification, association, prediction and clustering. Algorithms based on decision trees, Bayes' model, instance-based learning and numeric classifiers.
  One lecture (two hours), one lab; one term
  Prerequisite: COMPTECH 3PD3

COMPTECH 4ES3 EMBEDDED SYSTEMS
- Real-time operating systems. Scheduling and concurrency. Sampling, digitization, conditioning and processing of signals. Control, communications. Reliability and fault tolerance.
  One lecture (two hours); one lab; one term
  Prerequisite: COMPTECH 4AP3

COMPTECH 4FD3 FACILITIES DESIGN AND IMPLEMENTATION
- Project-based course that incorporates the knowledge that students have gained in the areas of network infrastructure, systems design and security.
  One lecture (three hours); one term
  Prerequisite: COMPTECH 3RQ3

COMPTECH 4IN3 INQUIRY II (GROUP PROJECT)
- Inquiry-based course in which a large facilities development project is used to put into practice the concepts and techniques developed in the program.
  One lecture (three hours); one term
  Prerequisite: Registration in Level IV of Computing Information Technology

COMPTECH 4SD3 SYSTEM DESIGN
  One lecture (three hours); one term
  Prerequisite: COMPTECH 3RQ3

COMPTECH 4TM3 SOFTWARE TESTING
  One lecture (two hours); one lab; one term
  Prerequisite: COMPTECH 3RQ3

COMPTECH 4TR3 TRAINING
  One lecture (three hours); one term
  Prerequisite: Registration in Computing Information Technology

ENGINEERING TECHNOLOGY ...

Courses

ENG TECH 1A00 SAFETY TRAINING
- Introduction to safety guidelines, acceptable safety conduct and positive safety attitudes and practices in laboratories and workplaces.
  One hour; first week; first term
  Prerequisite: Registration in Technology I
  Antirequisite: ENGINEER 1A00, NURSING 1A00, SCIENCE 1A00
  This course must be completed before registering in any Level II Technology program.

ENG TECH 1AC3 ANALYTICAL CHEMISTRY
- Introduction to laboratory procedures used in chemical analysis for classical, wet and instrumental methods; statistical data treatment, gravimetric analysis, volumetric analysis, pH measurements and optical methods.
  Three lectures; one lab; one term
  Prerequisite: ENG TECH 1CH3

ENG TECH 1BI3 BIOLOGY
- This course provides basic introduction to the following topics: chemistry of life, cells, genetics, evolution and diversity and plant and animal form and function.
  Three lectures, one tutorial; one term
  Prerequisite: Registration in Technology I

ENG TECH 1CH3 CHEMISTRY
- Basic chemical concepts, calculations and laboratory procedures. Chemical formulae and equations, chemical stoichiometry, nomenclature, acids and bases, pH, redox equilibria, chemical kinetics, thermochemistry and thermodynamics, redox reactions and electrolysis.
  Three lectures, one tutorial, one lab (three hours every other week); one term
  Prerequisite: Registration in Technology I

ENG TECH 1CP3 C++ PROGRAMMING
- Introduction to C++ programming. C++ syntax, functions, decision-making, loops, operators, arrays and data structures.
  Two lectures, one lab (two hours); one term
  Prerequisite: Registration in ENG TECH 1PR3 or Automotive and Vehicle Technology, Biotechnology, Manufacturing Engineering Technology or Process Automation Technology
  Antirequisite: ENG TECH 1PG3
ENG TECH 1EE0  
**INTRODUCTION TO THE TECHNOLOGY CO-OP PROGRAM**
Orientation to Technology Co-op programs and the workplace; self-assessment and goal setting; application procedures and materials; occupational health and safety.
Five sessions; first or second term
Prerequisite: Registration in a Four-Year Technology Co-op program

ENG TECH 1ELE3  
**ELECTRICITY AND ELECTRONICS I**
Introductory course in electricity and electronic science. Voltage and current sources, circuit elements, electronic components, circuit analysis techniques.
Four lectures, one lab (three hours); one term
Prerequisite: Registration in Technology I

ENG TECH 1ETD0  
**INTRODUCTION TO THE TECHNOLOGY CO-OP PROGRAM**
Orientation to Technology Co-op programs and the workplace; self-assessment and goal setting; application procedures and materials; occupational health and safety.
Five sessions; first or second term
Prerequisite: Registration in a Degree Completion Technology Co-op program

ENG TECH 1MC3  
**MATHEMATICS I**
Introductory mathematics course covering pre-calculus concepts, including algebra, trigonometry, complex numbers, exponential and logarithmic functions, systems of equations and matrices.
Four lectures; one term
Prerequisite: Registration in Technology I

ENG TECH 1MT3  
**MATHEMATICS II**
Introductory calculus; limits, derivatives, integrals and applications. Computer algebra software will be used throughout the course.
Four lectures; one term
Prerequisite: ENG TECH 1MC3

ENG TECH 1PH3  
**PHYSICS**
Sound, light, kinematics, forces, work, energy, fluid and thermal physics.
Four lectures, one lab (two hours every other week); one term
Prerequisite: Registration in Technology I

ENG TECH 1PR3  
**PROGRAMMING PRINCIPLES**
Project-based course covering computer programming using Visual Basic. Object-oriented, event-driven programs involving decisions, looping, arithmetic calculations, string handling and data file handling.
Two lectures, one lab (two hours); one term
Prerequisite: Registration in Technology I

ENG TECH 2EE0  
**FOUR MONTH CO-OP EXPERIENCE I**
Minimum of 15 weeks of full-time employment in a professional environment.
Prerequisite: ENG TECH 1EE0 and registration in a Four-Year Technology Co-op program

ENG TECH 2ETD0  
**FOUR MONTH CO-OP EXPERIENCE I**
Minimum of 15 weeks of full-time employment in a professional environment.
Prerequisite: ENG TECH 1ETD0 and registration in a Degree Completion Technology Co-op program

ENG TECH 2MA3  
**MATHEMATICS III**
Advanced integration applications; vector calculus; sequences and series; differential equations.
Three lectures, one tutorial; one term
Prerequisite: ENG TECH 1MT3

ENG TECH 2MT3  
**MATHEMATICS IV**
Infinite complex series; Taylor and Laurent series; calculus of residues; conformal mapping; calculus of complex variables; Laplace and Fourier transforms.
Four lectures; one term
Prerequisite: ENG TECH 2MA3

ENG TECH 3CT3  
**SYSTEM ANALYSIS AND CONTROLS**
Mathematical foundation; differential equations, Laplace transforms, transform by partial-fraction expansion; transfer functions; modeling of physical systems; stability, Routh's criteria; time and frequency domain; root-locus technique; design of control systems.
One lecture (three hours); one term
Prerequisite: Registration in Manufacturing Engineering Technology
Antirequisite: ENG TECH 2CT3

ENG TECH 3DM3  
**DISCRETE MATHEMATICS**
Fundamental discrete mathematics concepts relevant to IT: sets, relations, functions, graphs, propositional logic. State machines, input/output specifications. Invariants.
One lecture (three hours); one term
Prerequisite: Registration in Computing Information Technology

ENG TECH 3EE0  
**FOUR MONTH CO-OP EXPERIENCE II**
Minimum of 15 weeks of full-time employment in a professional environment.
Prerequisite: ENG TECH 2EE0 and registration in a Four-Year Technology Co-op program

ENG TECH 3ETD0  
**FOUR MONTH CO-OP EXPERIENCE II**
Minimum of 15 weeks of full-time employment in a professional environment.
Prerequisite: ENG TECH 2ETD0 and registration in a Degree Completion Technology Co-op program

ENG TECH 3FE3  
**FINITE ELEMENT ANALYSIS**
Finite element analysis; eigenvalue problems; equations of elasticity; plane stress, plane strain, 3D problems; variational methods; element types, element stiffness, mass matrices and load vector; assembly of elements; boundary conditions.
Two lectures, one lab; one term
Prerequisite: AUTOTECH 2AC3, 2TS3, ENG TECH 3MN3 and registration in Automotive and Vehicle Technology, or ENG TECH 3MA3, 3ML3 and registration in Manufacturing Engineering Technology.
Antirequisite: ENG TECH 2FE3

ENG TECH 3MA3  
**MATHEMATICS V**
Ordinary and partial differential equations; Laplace transforms; Fourier series; vector calculus; integral theorems, with engineering applications.
Three lectures; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology or Manufacturing Engineering Technology.
Antirequisite: ENG TECH 1MA3

ENG TECH 3ML3  
**STRENGTH OF MATERIALS**
Stresses under combined loads, generalized Hooke’s Law; two and three dimensional stresses, stress transformation, principal stresses, Mohr’s circle, deflections by integration, energy methods, Castigliano’s theorem, columns; yield criteria.
Three lectures; one term
Prerequisite: Registration in Civil Engineering Infrastructure Technology or Manufacturing Engineering Technology.
Antirequisite: ENG TECH 1ML3

ENG TECH 3MN3  
**MODELLING AND NUMERICAL SOLUTIONS**
Number systems and errors; solutions to nonlinear equations; interpolation by polynomials; matrices and systems of linear equations; differentiation and integration; differential equations; applications to mechanical systems.
Three lectures; one term
Prerequisite: ENG TECH 1CP3; and ENG TECH 2MA3 or 3MA3
Antirequisite: ENG TECH 2MN3

ENG TECH 3ST3  
**ENGINEERING STATISTICS**
An introductory statistics course covering the following topics with engineering applications: organization and description of data, probability and distributions, confidence intervals and hypothesis testing and bivariate data analysis using regression.
Three lectures; one term
Prerequisite: ENG TECH 1MT3 or registration in Computing and Information Technology

ENG TECH 4EE0  
**FOUR MONTH CO-OP EXPERIENCE III**
Minimum of 15 weeks of full-time employment in a professional environment.
Prerequisite: ENG TECH 3EE0 and registration in a Four-Year Technology Co-op program

ENG TECH 4IT3  
**INTERNET TECHNOLOGIES AND DATABASES**
Internet technologies and standards, database concepts; structured query language elements; web database processing; client and server-side scripts.
Two lectures, one lab; one term
Prerequisite: ENG TECH 1CP3

GENERAL TECHNOLOGY...

Notes:
1. With the approval of the Associate Director the following courses may be substituted for GEN TECH 2TC3:
   - ARTS&SCI 3B03 Technology and Society I
   - CMST 2EB3 Introduction to Culture and Communication
   - CMST 4M03 Communication, Culture and Technology, 1644-1927
   - ENGOCTY 3Y03 The Culture of Technology
2. With the approval of the Associate Director the following courses may be substituted for GEN TECH 2TE3:
   COMMERCE 2S3 Business Ethics
   ENGINEER 4A03 Engineering and Social Responsibility
   PHILOS 2N03 Business Ethics
3. With the approval of the Associate Director the following course may be substituted for GEN TECH 2TL3:
   LABR ST 2003 Labour and Globalization
4. With the approval of the Associate Director the following courses may be substituted for GEN TECH 2TP3:
   ARTS&SCI 3BB3 Technology and Society II
   ENGO SOTY 4Z03 The Social Control of Technology

Courses

GEN TECH 1C3 COMMUNICATION SKILLS
The purpose of this course is to provide students with the foundations of sound technical communication skills. The emphasis is on applying principles of style, structure and strategy to a variety of documents, including reports for multiple audiences and oral presentations.
Three lectures; one term
Prerequisite: Registration in Technology 1

GEN TECH 1DM3 PROBLEM SOLVING AND DECISION MAKING
Techniques for structuring organizational situations to improve the functioning of processes and operations.
Three lectures; one term
Prerequisite: Registration in Technology I or above of a Technology program

GEN TECH 1E3 ENGINEERING ECONOMICS
Costing methods for engineering designs and processes; minimum attractive rate of return; return sensitivities; time value of money; internal rates of return; payback period; amortization of equipment and capital cost allowance structures.
Three lectures; one term
Prerequisite: Registration in Technology I or above of a Technology program

GEN TECH 1FS3 FINANCIAL SYSTEMS FOR TECHNOLOGY ORGANIZATIONS
Introduction to the use of accounting data in the management of technical units and projects.
Three lectures; one term
Prerequisite: Registration in Technology I or above of a Technology program

GEN TECH 1HR3 HUMAN RESOURCES IN A TECHNOLOGY SETTING
Best practices in managing technical human resources and others who work in technical organizations.
Three lectures; one term
Prerequisite: Registration in Technology I or above of a Technology program

GEN TECH 1OB3 HUMAN BEHAVIOUR IN TECHNOLOGY SETTINGS
The basic principles of human behaviour and organization for application in technical organizations and their sub-units.
Three lectures; one term
Prerequisite: Registration in Level I or above of a Technology program

GEN TECH 1T3 TECHNOLOGY INQUIRY
Inquiry focuses on problem definition, formulating questions, research underlying issues of public concern, and analyzing opposing arguments. This course involves teaching how to use resources in research, write a research paper and express ideas orally.
Three lectures; discussion, group work; one term
Prerequisite: Registration in Level I or above of a Technology program

GEN TECH 2EN3 TECHNOLOGICAL ENTREPRENEURSHIP
The processes for bringing new technologies to market through business formulation and entrepreneurship.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2IS3 INFORMATION SYSTEMS IN TECHNOLOGY MANAGEMENT
The use of information systems in the management of the technical aspects of business and in integrating the technical functions in the broader organization.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2TC3 TECHNOLOGY AND CULTURE
This course examines culture contexts and their relationship with the development and implementation of technology. Students will examine the cultural factors that promote/deter technological growth and anticipate various outcomes of these interactions.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2TE3 TECHNOLOGY AND ETHICS
In this course the students will examine issues and choices of the ethical underpinnings of technological development and implementation and the new ethical dilemmas raised by our abilities to reshape all aspects of our social and physical environment.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2TL3 TECHNOLOGY AND LABOUR
The interplay of labour, management and government is critically examined within the context of technology as a driver of change within organizations. Technology related workplace issues along with appropriate solutions will be examined.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2TM3 TECHNOLOGY AND MANAGEMENT
In this course the students will critically examine the technology diffusion/adoption process and implementation strategies in different organizations.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 2TP3 TECHNOLOGY AND POLITICS
This course examines the politics of technology and its application. Students will examine how political interests fashion technological development applications in various societies and setting of technological priorities and decision making processes.
Three lectures; one term
Prerequisite: Registration in Level II or above of a Technology program

GEN TECH 3PM3 THE MANAGEMENT OF TECHNICAL PROJECTS
Introduction to best practice in the management of technical projects including the use of planning, software and the management of people.
Three lectures; one term
Prerequisite: Registration in Level III or above of a Technology program

GEN TECH 3SF3 FORMULATING TECHNOLOGY STRATEGY
Issues in the development of organizational strategy around technological and market imperatives, emphasizing the competitive mobilization of technical capabilities.
Three lectures; one term
Prerequisite: GEN TECH 1FS3, 1OB3, 2EN3, 3PM3

GEN TECH 3TL3 TECHNOLOGY LEADERSHIP
This course examines the roles, responsibilities and styles for providing leadership in technology driven organizations. A major project integrating ethics/labour/cultural/political and management issues will be undertaken. A 'volunteer' component is required.
Three lectures; one term
Prerequisite: Registration in Level III or above of a Technology program

GEN TECH 4LM3 LEAN MANUFACTURING
Application of lean methods in manufacturing settings including: developing overall lean strategies, value stream mapping, rapid change techniques, turnaround and cycle time reduction, visual control systems, concurrent engineering, cellular processing and zero inventories.
Three lectures; one term
Prerequisite: Registration in Level IV of a Technology program

GEN TECH 4SS3 STATISTICAL PROCESS CONTROL
Use of the 6 Sigma scientific paradigm to statistical process control and data-based decision-making methods; continuous improvement process strategies.
Three lectures; one term
Prerequisite: Registration in Level IV of a Technology program

GEN TECH 4ST3 SPECIAL TOPICS
Students are offered a selection of six to eight emerging issues of the day as those issues relate to current technology practices. An experiential project permits a more in-depth exploration of an issue of particular interest to the student.
Three lectures; one term
Prerequisite: Registration in Level IV of a Technology program
MANUFACTURING TECHNOLOGY

Courses

MAN TECH 3CD3  ADVANCED CADD
Design cycle; graphics workstations; representation methods; Brep, CSG; shape
then size modelling-profiles, relational dimensioning; libraries; assemblies; mechan-
ism design; IGES/STEP; hardware, software, graphics, networking.
One lecture, one lab; one term
Prerequisite: Registration in Manufacturing Engineering Technology
Antirequisite: MAN TECH 1CD3

MAN TECH 3MD3  MACHINING TECHNOLOGY
Metal removal; chip formation; tool life; cutting temperature, fluids and forces,
power, optimization, finish, tolerances; CNC machine tools; structures and
drives; control; machinability; complex tools; non-traditional processes.
Three lectures, one lab, one term
Prerequisite: MAN TECH 4FB3
Antirequisite: MAN TECH 2MT3

MAN TECH 3TF3  THERMO FLUIDS I
Thermodynamic principles; steam plant cycles; heat engines; gas and
steam turbine cycles; refrigeration and heat pumps; air conditioning;
conduction; transient systems; convection; radiation; heat exchangers.
Three lectures, one tutorial, one term
Prerequisite: Credit or registration in ENG TECH 3MA3
Antirequisite: MAN TECH 1TF3

MAN TECH 4FB3  FABRICATION TECHNOLOGY
Welding: arc welding methods; laser beam welding and electron beam weld-
ing. Casting: pattern and mould design, die, centrifugal casting, defects. Heat
reduction; steel ingots, continuous casting, wrought structure, furnaces.
Two lectures, one lab; one term
Prerequisite: Registration in Manufacturing Engineering Technology
Antirequisite: MAN TECH 3FB3

MAN TECH 4FM3  CIM AND FLEXIBLE MANUFACTURING
Linear and circular interpolation, manual NC programming-G codes; CAM soft-
ware; computer vision; coordinate measuring machines (CMM), touch probes;
manipulator kinematics. dynamics and trajectory generation; robot programming.
Two lectures, one lab; one term
Prerequisite: MAN TECH 3CD3
Antirequisite: MAN TECH 3FM3

MAN TECH 4FT3  FORMING TECHNOLOGY
Plasticity theory, yield surfaces, kinematic hardening, anisotropic plas-
ticity and slip line field models; forming processes: plasticity models,
process optimization; fabrication for metal and non-metallic materials
including composites and polymers.
Three lectures, one lab; one term
Prerequisite: ENG TECH 3FE3
Antirequisite: MAN TECH 3FT3

MAN TECH 4ID3  INDUSTRIAL ENGINEERING
Production and operations management; decision making tools; forecast-
ing; strategies and capacity; location, operations layout and aggregate
planning, inventory management and JIT tactics; material requirements;
project management.
Three lectures; one term
Prerequisite: Registration in Manufacturing Engineering Technology
Antirequisite: MAN TECH 1ID3

MAN TECH 4MC3  MECHATRONICS
Sensors; actuators: DC, AC and stepper motors, actuators; programmable
controllers; modelling of dynamic systems. System identification; com-
puter simulation and control; computer interfacing. Analog to digital con-
version. Communication interfaces; case studies.
Three lectures, one lab; one term
Prerequisite: ENG TECH 3CT3
Antirequisite: MAN TECH 3MT3

MAN TECH 4MT3  MACHINING TECHNOLOGY
Metal removal; chip formation; tool life; cutting temperature, fluids and forces,
power, optimization, finish, tolerances; CNC machine tools; structures and
drives; control; machinability; complex tools; non-traditional processes.
Three lectures, one lab, one term
Prerequisite: MAN TECH 4FB3
Antirequisite: MAN TECH 2MT3

MAN TECH 4TF3  THERMO FLUIDS II
Fluid statics; pressure, manometry, hydrostatic forces, forces on sub-
merged and floating bodies; kinematics of flow, control volume approac-
ch, continuity, momentum, energy and Bernoulli's equations; dimensional
analysis and similarity; flow in closed conduits.
Three lectures; one lab; one term
Prerequisite: MAN TECH 3TF3
Antirequisite: MAN TECH 2TF3

MAN TECH 4ST3  STATISTICAL PROCESS
Control and QUALITY CONTROL
Statistical methods; statistical process control; control charts for vari-
bles, rational sampling and attributes; experimental design; two level
factorial designs; Taguchi's approach to quality of design, ISO 9000;
reliability and life testing; management of quality.
Three lectures; one term
Prerequisite: ENG TECH 3MA3
Antirequisite: MAN TECH 3ST3

PROCESS AUTOMATION TECHNOLOGY

Courses

PROCTECH 2CA3  CAD FOR DESIGN
This course provides an introduction to computer aided drafting methods
for the production and interpretation of electrical and P and ID drawings.
One lab (three hours); one term
Prerequisite: ENG TECH 1EL3, 1PR3
Corequisite: PROCTECH 2IC3

PROCTECH 2CE3  CHEMICAL ENGINEERING I
The first part of this course focuses on physical chemistry (Gas Laws and
Phase Rule). The remainder of the course is devoted to chemical engineering.
Topics include mass and energy balance, heat transfer and unit opera-
tions.
Two lectures, one tutorial; one lab (two and one half hours); one term
Prerequisite: ENG TECH 1CH3, 1MC3, 1PH3

PROCTECH 2EC3  CHEMICAL ENGINEERING II
This course examines both the unit processes and engineering prin-
ciples applicable to a number of industrial processes. Also, Process In-
strumentation Diagrams (P and ID) will be interpreted.
Three lectures, one lab; one term
Prerequisite: ENG TECH 1MT3, PROCTECH 2EC3

PROCTECH 2EE3  ELECTRICITY AND ELECTRONICS I
This second course in electricity and electronic science will be presented
through lectures and labs. The course content covers: sources of electrical
energy, AC circuit analyses, transistor circuitry, amplifiers and oscillators.
Three lectures, one tutorial; one lab (three hours); one term
Prerequisite: ENG TECH 1EL3, 1MC3

PROCTECH 2IC3  INSTRUMENTATION AND CONTROL
This course covers common pressure, level, temperature and flow meas-
uring systems that provide the basic to specify, design, construct, test
and tune a control loop using a PID controller. A distributed control sys-
tem is also introduced.
Three lectures; one lab (three hours); one term
Prerequisite: ENG TECH 1MT3
Corequisite: PROCTECH 2EE3

PROCTECH 2ID3  INDUSTRIAL ORGANIC CHEMISTRY
A study of organic chemistry, including structure, nomenclature, major
reactions and industrial applications. Emphasis will be placed on indus-
trial manufacturing and uses. Lab sessions will emphasize common
organic chemistry techniques.
Three lectures; one lab (three hours); one term
Prerequisite: ENG TECH 1CH3

PROCTECH 2LP3  PLCs AND AUTOMATION I
An introduction to Programmable Logic Controllers (PLCs) and their use
in automation applications. AC and DC motors, PLC basics, Input/Output,
memory addressing and program control instructions, and PLC networking,
motor control protection and starting.
Three lectures; one lab (three hours); one term
Prerequisite: ENG TECH 1MT3, PROCTECH 2EE3, 2IC3

PROCTECH 3EE3  CHEMICAL ENGINEERING III
This course covers simulation and analysis of integrated process units
within a chemical process plant. Key topics covered are: process flow
models and simulation, process analysis using simulation model,
routine process optimization and plant simulation.
Three lectures; one lab (two hours); one term
Prerequisite: PROCTECH 2EC3, 3CT3
This course covers analysis and design of closed loop control systems. System characteristics and performance, stability analysis, system types, performance improvement, digital control systems, compensation, filtering and motion system tuning. Three lectures, one lab (three hours); one term
Prerequisite: ENG TECH 2MT3, PROCTECH 2EC3, 2PL3

**PROCTECH 3MC3  MOTION CONTROL AND ROBOTICS**

The motion control part of this course covers the theory and operation of AC and DC drive systems and NC and motion control. The robotics portion of the course covers the following topics: robot anatomy and attributes, end effectors, robot programming and applications. Three lectures, one lab (three hours); one term
Prerequisite: PROCTECH 3CT3, 3PL3, 3SC3

**PROCTECH 3PL3  PLCs AND AUTOMATION II**

Advanced PLC programming concepts such as files, subroutines and indexing, Industrial networks, PID and PWM, IIM, AC and DC Drives integration and implementation in PLCs and automation project. Lectures are designed to support the lab program. Three lectures, one lab (three hours); one term
Prerequisite: PROCTECH 2PL3

**PROCTECH 3SC3  SYSTEM CONTROL AND DATA ACQUISITION I**

This first level SCADA course covers the following topics: introduction to SCADA, digital conversion theory, sensors and detectors, noise and filtering, communication protocols, databases and process control evaluation. Three lectures, one lab (three hours); one term
Prerequisite: ENG TECH 1PR3, PROCTECH 2EC3, 2IC3

**PROCTECH 3SD3  SYSTEM CONTROL AND DATA ACQUISITION II**

SCADA architecture, bus standards and protocols, multi-loop PID control, workstation design, system safety, redundancy and maintenance and SCADA project design. Three lectures, one lab (three hours); one term
Prerequisite: PROCTECH 2EC3, 2CT3, 3SC3

**PROCTECH 4AS3  ADVANCED SYSTEM COMPONENTS AND INTEGRATION**

This course covers advanced sensor and actuator technology, robotics and vision systems, automated workcell, flexible manufacturing systems, computer integrated manufacturing. Hardware and software integration issues, when and how to automate, OPC and HMI. Three lectures, one lab (three hours); one term
Prerequisite: PROCTECH 4IC3, 4IT3

**PROCTECH 4CT3  CONTROL THEORY II**

This course covers process characteristics, methods of analysis, controller design, adaptive control, loop tuning, process control improvement examples with emphasis on plant control and tutorial exercises using MATLAB. Three lectures, one tutorial; one term
Prerequisite: PROCTECH 3CE3, 3CT3

**PROCTECH 4IC3  INDUSTRIAL NETWORKS AND CONTROLLERS**

Corporate and industrial networks, OSI model, Ethernet and TCP/IP, Modbus, Foundation Field bus, DeviceNet, PROFIBUS, AS-i, proprietary buses and protocols, distributed I/O, drivers and devices and their implementation in PC and PLC based systems. Three lectures, one lab (three hours); one term
Prerequisite: PROCTECH 3MC3, 3PL3, 3SC3

**PROCTECH 4IT3  INTERNET TECHNOLOGIES AND DATABASES**

This course covers the following topics: internet technologies and standards, database concepts, structured query language elements, web database processing and client and server side scripts. Two lectures, one lab (two hours); one term
Prerequisite: PROCTECH 4EC3, 4EG3

**PROCTECH 4MS3  MANUFACTURING SYSTEMS**

This course examines manufacturing and production systems, material selection and design process, measurement and quality assurance, plastics, steels, and ceramics manufacturing, environmental and safety management, asset management and reliability. Three lectures, one lab (two hours every other week); one term
Prerequisite: PROCTECH 4IC3, 4IT3

**PROCTECH 4MT3  MATERIALS TECHNOLOGY**

This course covers classes of engineering materials, their important properties and applications. Topics include metals and alloys, stress and strain, plastics and elastomers, ceramic materials and selection of a material for an application. Two lectures; one term
Prerequisite: ENG TECH 1CH3, 1PH3

**PROCTECH 4SS3  SYSTEM SPECIFICATION AND DESIGN**

This course focuses on requirement analysis, functional design, detailed design, reliability, maintainability, and system life cycle. Methodologies and tools, requirements and validations, requirements for safety-related systems and mission critical systems. Three lectures; one term
Prerequisite: PROCTECH 2CA3, 3MC3, 4IC3

**PROCTECH 4TR3  TECHNICAL REPORT**

This course requires students to research, design, develop and implement an independent project. The project will be documented as a technical report and presented in a seminar. One tutorial, one lab (two hours); two terms
Prerequisite: ENG TECH 3MN3, PROCTECH 3CE3, 3MC3, 3SC3

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**THEATRE & FILM**

**WEB ADDRESS:** http://www.humanities.mcmaster.ca/~sota/index.html
Togo Salmon Hall, Room 414
Ext. 27671

Courses and programs in Theatre & Film are administered within the School of the Arts of the Faculty of Humanities.

**Note:**
Students are advised to note carefully the prerequisites for all courses, and take note which courses are offered in alternate years.

**Courses**

If no prerequisite is listed, the course is open.

**THTR&FLM 1A03  INTRODUCTION TO PERFORMANCE ANALYSIS**

An exploration of the ways theatre artists bring different production elements and performance techniques together to get audiences thinking about important social issues.
Two lectures, one tutorial; one term

**THTR&FLM 1B03  INTRODUCTION TO FILM ANALYSIS**

An introduction to an interrelated set of approaches to film study, all of which are defined by their attention to the filmic text and which provide students with a grasp of the fundamentals of film analysis.
Two lectures, one tutorial, plus one weekly film screening; one term

**THTR&FLM 2A03  THE ACTOR AS CREATOR**

Students learn basic techniques for creating short dramatic performances that reveal and question the social and political norms that structure contemporary social relationships.
Two studios; one term
Prerequisite: Registration in a program in Theatre and Film Studies or Communication Studies.

**THTR&FLM 2B03  CREATING PERFORMANCE ENVIRONMENTS**

An introduction to different techniques used to create an environment in which a specific performance can become meaningful for a particular audience. Students will participate in directed work with theatre artists on program productions.
One studio; one term. (50 practicum hours including evenings and weekends.)
Prerequisite: Registration in a program in Theatre & Film Studies, Multimed- ia, Art or Communication Studies. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year. Priority will be given first to students registered in the Theatre and Film Studies program, and then to students registered in the Performance Studies Stream of the Communication Studies program. Departmental permission required.

**THTR&FLM 2C03  DRAMATIC FORMS**

Different performance techniques and conventions demand particular forms of dramatic narrative. By comparing the way similar stories are told in different media and genres, students identify the structuring elements of dramatic texts written for live performance, film television and music theatre.
Three hours (lectures and group presentations); one term
Prerequisite: THTR&FLM 1A03, 1B03
Cross-list: CMST 3PG3, COMP LIT 2D03
**THTR&FLM 2E03  NEW MEDIA AND PERFORMANCE**

This course will explore critical issues in new media and examine the ways in which new media shape the creation, reception and interpretation of forms of performance.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Theatre and Film Studies or Communication Studies

Cross-list: CMST 2E03

**THTR&MFL 2F03  FILM HISTORY TO THE SECOND WORLD WAR**

An introduction to the history of narrative film from its beginnings to the Second World War. It focuses on narrative cinema's development from aesthetic, social, technological and economic perspectives while also touching on a selected number of issues in film theory.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above

Cross-list: ART HIST 2G03

Antirequisite: CMST 2F03

**THTR&FLM 2G03  THE ANCIENT WORLD IN FILM**

The emphasis is on myth (Amazons, Hercules) and history (slave revolts, banquets, decadent emperors), studied via Greek and Latin accounts (in translation) and cinematic versions (e.g., Electra, Medea, Mighty Aphrodite, Apocalypse Now, Spartacus, I Claudius).

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CLASSICS 2G03

Antirequisite: CMST 2G03

This course is administered by the Department of Classics.

**THTR&FLM 2H03  THE CONTEMPORARY JAPANESE FILM**

This course examines the development of Japanese films since the Second World War, including contemporary feature films and animations, exploring the rich legacy of directors such as Akira Kurosawa, Ken Ichikawa, Juzo Itami and Masayuki Suo, and animation directors such as Hayao Miyazaki and Isao Takahata.

Two lectures, plus one weekly film screening; one term

Prerequisite: Registration in Level II or above

Cross-list: JAPAN ST 2F03

Offered in alternate years.

This course is administered by the Department of Linguistics and Languages.

**THTR&FLM 2I03  ITALY THROUGH THE CAMERA LENS**

This course takes the student on a journey through fifty years of Italian cinematic history using nine movies (in Italian, with subtitles) that represent some of the most critical moments related to Italian culture in post- WWII period. Taught in English.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: ITALIAN 2I03

This course is administered by the Department of Linguistics and Languages.

**THTR&FLM 2T03  MUSIC FOR FILM AND TELEVISION**

An exploration of how music functions to help create meanings in film and television programs. Examples will be drawn from throughout the history of film and television.

Three lectures; one term

Prerequisite: Registration in Level II or above

Cross-list: CMST 2T03, MUSIC 2T03

This course is administered by Music.

**THTR&FLM 2C03  MANAGING PERFORMANCE ENVIRONMENTS**

A survey of the skills and practices involved in managing performance environments with special attention to issues in production management and stage/studio management.

Students will undertake management of different aspects of Theatre & Film Studies productions as part of their course of study.

Term one: two hours; Term two: one hour (Workshop and practical exercises, 65 practicum hours including evenings and weekends)

Prerequisite: Registration in a program in Theatre & Film Studies and a grade of at least B- in THTR & FILM 2B03 or 2BB3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.

Antirequisite: THTR & FILM 3C03

Departmental permission is required.

**THTR&FLM 3E03  TWENTIETH-CENTURY THEATRE**

An exploration of important formal and social experiments that marked twentieth-century theatre and paved the way for contemporary theatre forms.

Three hour lecture and discussion; one term

Prerequisite: Six units of Level II Theatre & Film; or registration in Level III or IV of a Comparative Literature program and three units of Theatre & Film Cross-list: COMPLIT 3E03

Offered in alternate years.

**THTR&FLM 3P03  DEVELOPTMENT OF CANADIAN THEATRE**

A study of the development of theatrical performance in English Canadian, Quebecois, First Nations and culturally diverse communities, with an emphasis on the period since 1967.

Three hours (lecture and discussion); one term

Prerequisite: Six units of Level II Theatre & Film

Offered in alternate years.

**THTR&FLM 3A03  THEATRE AND COMMUNITY DEVELOPMENT**

This course explores the different approaches to community-based theatre generated in a range of social and cultural milieus and will analyze the sense of community implicit in a variety of popular and community-based theatre projects.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above

Antirequisite: CMST 3M03

Offered in alternate years.

**THTR&FLM 3I03  THEORIZING CULTURE THROUGH PERFORMANCE**

Students will explore artists' practises in making performances and will analyse how artists work with theories, texts, spaces, bodies, audiences and produce challenges to artistic, social and political norms.

Three hours; one term

Prerequisite: One of ART HIST 2D03, 3A03, CMST 2G03, 2P03, 2S03, THTR&FLM 2C03, 2D03, 2E03

Cross-list: ART HIST 3L03, CMST 3L03

Not open to students with credit in 2E03 if taken in 2002-2003.

Offered in alternate years.

**THTR&FLM 3K03  TOPICS IN DRAMATIC PERFORMANCE I**

An exploration of contemporary dramatic performance trends since 1960. Topics will cover dramatic performance in theatre and film.

Three hours lecture and discussion; one term

Prerequisite: One of THTR&FLM 2C03, 2D03, 2E03 or 2F03

Offered on an irregular rotation basis.

**THTR&FLM 3K03  TOPICS IN DRAMATIC PERFORMANCE II**

An exploration of contemporary dramatic performance trends since 1990.

Topics will cover dramatic performance in television and other media.

Three hours lecture and discussion; one term

Prerequisite: THTR&FLM 2C03 or 2D03

Offered on an irregular rotation basis.

**THTR&FLM 3L03  FILM HISTORY: 1941 TO THE PRESENT**

An exploration of narrative film from 1941 to the present day, incorporating a study of a variety of narrative cinema styles. Theoretical issues will include questions of cinema's relationship to other art forms, narrative, genre and authorship.

Two lectures, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2P03

Cross-list: ART HIST 3X03

Antirequisite: CMST 3X03

Offered in alternate years.

**THTR&FLM 3M03  FILM, VIDEO AND ENTERTAINMENT CULTURE**

Critical approaches to forms of entertainment culture which permeate our everyday lives (e.g., popular films, video culture, television). Topics may include the cultural meanings of popular imagery, star-gazing, and commercialization.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2F03

Cross-list: CMST 3S03

Offered in alternate years.

**THTR&FLM 3N03  INDEPENDENT FILM AND VIDEO**

An exploration of art film and video produced outside of dominant institutions, including such practices as documentary, autobiography, community projects, experimental film, short film, and video art.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: THTR&FLM 2E03 or 2F03

Cross-list: CMST 3U03

Offered in alternate years.

**THTR&FLM 3P03  WOMEN AND VISUAL CULTURE**

Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visual modalities such as film, video, television, advertising, etc. cultures.

Two hour lecture and discussion, plus one weekly film screening; one term

Prerequisite: Registration in Level III or above and one of ART HIST 2A03, CMST 2F03, 2I03, THTR&FLM 1B03 or WOMEN ST 1A06 (or 1A03 and 1A03)

Cross-list: CMST 3BB3, WOMEN ST 3BB3

Not open to students with credit or registration in WOMEN ST 3B03 if taken in 2001-2002.

This course is administered by Women's Studies.
THTR&FLM 3Q03  TOPICS IN NATIONAL CINEMAS I  
This course examines film in relation to nations and national contexts. Areas of investigation may include filmic production of a particular country, national belonging and transnational identities. 
Two hour lecture and discussion, plus one weekly film screening; one term  
Prerequisite: One of THTR&FLM 1B03, 2E03, 2F03  
Cross-list: COMP LIT 3V03  
Antirequisite: CMST 3T03  
Offered on an irregular rotation basis.

THTR&FLM 3Q03  TOPICS IN NATIONAL CINEMAS II  
This course examines film in relation to nations and national contexts. Areas of investigation include filmic production of global/local characteristics.  
Two hour lecture and discussion, plus one weekly film screening; one term  
Prerequisite: One of THTR&FLM 1B03, 2E03, 2F03  
Cross-list: COMP LIT 3V03  
Antirequisite: CMST 3T03  
Offered on an irregular rotation basis.

THTR&FLM 3R03  READING FILM  
A critical examination of selected films and film genres as cultural texts, using methods drawn from film theory and cultural studies.  
Three lectures, plus one weekly film screening; one term  
Prerequisite: Registration in Level II or above of a program in Art History, Communication Studies, Comparative Literature, Cultural Studies and Critical Theory, English or Theatre & Film Studies. It is recommended that students should already have taken THTR&FLM 2F03.  
Cross-list: CMST 3C3, COMP LIT 3L03, CSGT 3C3, ENGLISH 3C3  
Offered in alternate years.  
This course is administered by the Department of English and Cultural Studies.

THTR&FLM 3503  INDEPENDENT STUDY IN PRACTICAL THEATRE  
This course is reserved for students with a strong academic record and the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.  
Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 8.0 and permission of the School of the Arts  
THTR&FLM 3T03  INDEPENDENT STUDY IN THEATRE & FILM I  
This course is reserved for students with a strong academic record and the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.  
Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 9.0 and permission of the School of the Arts  
THTR&FLM 3X03  MODERN PERFORMANCE IN ACTION  
An exploration in action of modern practices of dramatic representation and the forms of knowledge-building they promote.  
Two studios; one term  
Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2A3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.  
Antirequisite: THTR & FLM 3B03  
Departmental permission required.  
Offered on an irregular rotation basis with THTR&FLM 3X03.

THTR&FLM 3X3  POST-MODERN PERFORMANCE IN ACTION  
An exploration in action of post-modern practices of dramatic representation and the forms of knowledge-building they promote.  
Two studios; one term  
Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2A3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.  
Antirequisite: THTR & FLM 3B03  
Departmental permission required.  
Offered on an irregular rotation basis with THTR&FLM 3X03.

THTR&FLM 3YY3  NON-WESTERN PERFORMANCE IN ACTION  
An exploration in action of non-western practices of dramatic representation and the forms of knowledge-building they promote.  
Two studios; one term  
Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2A3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.  
Departmental permission required.  
Offered on an irregular rotation basis with THTR&FLM 3ZZ3.

THTR&FLM 3ZZ3  WESTERN CLASSICAL PERFORMANCE IN ACTION  
An exploration in action of classical practices of dramatic representation and the forms of knowledge building they promote.  
Two studio; one term  
Prerequisite: Registration in a program in Theatre and Film Studies; and a grade of at least B- in THTR & FLM 2A06 or 2A3. Students wishing to register in this course must submit an application form to the School of the Arts by the end of April to guarantee consideration for the following year.  
Antirequisite: THTR & FLM 3A03  
Departmental permission required.  
Offered on an irregular rotation basis with THTR&FLM 3YY3.

THTR&FLM 4A06  HONOURS PERFORMANCE PROJECT  
Students will work in small groups to create and critique dramatic performances.  
Two lectures and practical exercises, plus rehearsals; two terms.  
Prerequisite: Registration in Level IV of an Honours program in Theatre & Film Studies; and one of THTR & FLM 2A06, 2A3, 2C03 or 2DD; and one of THTR & FLM 2B03, 2B3, 3A03 or 3B03, 3C3, 3Y3, 3X03, 3XX3, 3ZZ3; and permission of the School of the Arts.  
Admission to THTR&FLM 4A06 will be based primarily on academic standing. In addition, students must complete a written application on a form provided by the School of the Arts, which must be submitted in March of the academic year prior to registration. Final selection will be made by Theatre and Film Studies faculty.

THTR&FLM 4C03  STUDIES IN THE THEORY OF DRAMATIC PERFORMANCE  
An examination of theoretical documents, with an emphasis on contemporary theories of the nature of dramatic performance.  
Seminar (two hours); one term  
Prerequisite: Registration in Level III or IV of an Honours program in Theatre & Film Studies  
Offered in alternate years.  
Priority will be given to students registered in Level IV of any Theatre & Film Studies program.

THTR&FLM 4D03  STUDIES IN THEATRE AND FILM  
This senior seminar introduces students to the study of the relationship between theatre and film. It is organized by topics that have been the focus of recent scholarship.  
Seminar (two hours), plus weekly film screening; one term  
Prerequisite: Registration in Level III or IV of an Honours program in Theatre & Film Studies  
Priority will be given to students registered in Level IV of any Theatre & Film Studies program.

THTR&FLM 4E03  STUDIES IN FILM  
Senior seminar: An examination of selected films.  
Seminar (two hours); one term  
Prerequisite: Registration in Level III or IV of an Honours program in Theatre & Film Studies; or registration in Level IV of an Honours program in Communication Studies. THTR&FLM 2F03 is recommended.  
Cross-list: CMST 4F03  
Priority will be given first to students registered in Level IV of any Theatre & Film Studies program, and then to students registered in Level IV of the Communication Studies program.

THTR&FLM 4F03  INDEPENDENT STUDY IN THEATRE & FILM STUDIES II  
This course is reserved for Honours Theatre & Film Studies students with the demonstrated ability to work independently. Students must submit a written proposal to the Academic Counsellor for Theatre & Film Studies no later than the first day of classes.  
Prerequisite: Registration in an Honours program in Theatre & Film Studies with a Cumulative Average of at least 9.0 and permission of the School of the Arts  
THTR&FLM 4J03  THE SPLIT SCREEN - RECONSTRUCTING NATIONAL IDENTITIES IN WEST AND EAST GERMAN CINEMA  
This course examines German film texts of the post-war period and their representation of West and East German identities. Films will be discussed within the context of important political, social and cultural developments at the time of the films' production.  
Two hours plus one film screening per week; one term  
Prerequisite: Registration in Level III or IV  
Cross-list: COMP LIT 4J03  
Offered on an irregular rotation basis.  
This course is administered by the Department of Linguistics and Languages.
**WOMENS STUDIES**

**WEB ADDRESS:** http://www.humanities.mcmaster.ca/-womenssts

Office of Interdisciplinary Studies
Togo Salmon Hall, Room 726
Ext. 23112

The Honours B.A. Women's Studies and Another Subject Program is taught by an Interdisciplinary Committee of Instruction.

**Director**

Vera Chouinard

**Assistant Professors**

Diane Enns(Philosophy and Women's Studies) B.A. (Ottawa), M.A. (Carleton), Ph.D. (SUNY-Binghamton)

Melinda Gough(English and Cultural Studies and Women's Studies) B.A. (McGill), M.A., Ph.D. (Yale)

**Committee of Instruction as of January 15, 2007**

**Chair**

Vera Chouinard (Geography and Earth Sciences)

Karen Balcom (History)

Chandrima Chakraborty (English and Cultural Studies)

Elisabeth Gedge (Philosophy)

Diane Enns (Philosophy and Women's Studies)

Janice Haidak (School of the Arts)

Jacques Khéirallah (English and Cultural Studies)

Susan Sears Giroux (English and Cultural Studies)

**Courses**

If no prerequisite is listed, the course is open.

**WOMEN ST 1A03**  **WOMEN, CULTURE, POWER**

An interdisciplinary introduction to Women's Studies focusing on how women and men shape and are shaped by culture (including popular culture), systems of power and institutional ideologies.

Three hours (two lectures, one tutorial); one term

Antirequisite: WOMEN ST 1A06

**WOMEN ST 1A03**  **WOMEN TRANSFORMING THE WORLD**

An interdisciplinary introduction to Women's Studies that explores women's historic and current collective efforts to transform social, economic and political conditions both nationally and globally.

Three hours (two lectures, one tutorial); one term

Antirequisite: WOMEN ST 1A06

**WOMEN ST 2A03**  **HUMAN RIGHTS AND SOCIAL JUSTICE**

An introduction to the growing national and international discussion of human rights, exploring the value and limitations of universal rights, equality under the law and social justice.

Three hours; one term

Prerequisite: WOMEN ST 1A03, 1AA3 or permission of the Director of Women's Studies

**WOMEN ST 2AA3**  **FEMINIST THEORY**

An introduction to various schools of feminist thought, including global feminism, poststructural feminism, radical feminism, cultural feminism, socialist feminism and the "third wave".

Three hours; one term

Prerequisite: WOMEN ST 1A03, 1AA3 or permission of the Director of Women's Studies

**WOMEN ST 2F03**  **HISTORY OF WOMEN IN EUROPE TO 1650**

An exploration of the history of European women and gender during the medieval and early modern periods, focusing on the political, social, spiritual, intellectual and economic realms.

Three hours; one term

Prerequisite: Registration in Level II or above

Cross-list: HISTORY 2F03

Antirequisite: HISTORY 2B06, WOMEN ST 2B06

This course is administered by the Department of History.

**WOMEN ST 2H03**  **SOCIAL ASPECTS OF REPRODUCTION**

An interdisciplinary course exploring birth and reproduction. Topics may include: social determinants of reproductive health, fertility and family norms, reproductive ethics, policy and technologies.

Two lectures, one tutorial; one term

Prerequisite: Registration in Level II or above

Cross-list: HEALTHST 2H03, HTH SCI 2103

**WOMEN ST 2H03**  **WOMEN'S HEALTH: A SOCIO-CULTURAL PERSPECTIVE**

Topics may include biomedical and social construction of gender, women as paid and unpaid health workers, consequences of discrimination for women's health and historical analysis of female healers.

Three hours; one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A03, 1AA3 are recommended.

Antirequisite: SOCIO 4U03

**WOMEN ST 2J03**  **GENDER AND PERFORMANCE**

An examination of gender as identity performances constructed in complex social, historical and cultural processes and conditions, including how gender gives meaning to different performance texts, as well as to a range of performance practices in daily life.

Three hours (lectures and discussion); one term

Prerequisite: Registration in Level II or above of a program in Communication Studies or Women's Studies

Cross-list: CMST 2J03

This course is administered by the Department of Communication Studies and Multimedia.

**WOMEN ST 2K06**  **STUDIES IN WOMEN WRITERS**

A closely focused course on women's writing in English. The topic for the course varies, sometimes concentrating on specific issues, sometimes on an historical period or national literature. Relevant feminist theory is a component of the course.

Three hours; two terms

Prerequisite: WOMEN ST 1A03, 1AA3 or permission of the Director of Women's Studies

Cross-list: CSCT 2K06, ENGLISH 2K06

This course is administered by the Department of English and Cultural Studies.

**WOMEN ST 2L03**  **FEMINIST UTOPIAS**

An examination of literary texts offering women's visions of social change.

Three hours (seminar and discussion); one term

Prerequisite: Registration in Level II or above. WOMEN ST 1A03, 1AA3 are recommended.

Cross-list: ENGLISH 2N03

**WOMEN ST 3A03**  **DOING FEMINIST RESEARCH**

An exploration of feminist research methods, focusing on experience, power and knowledge and on learning methods such as how to do oral history, interviews and participatory action research.

Three hours; one term

Prerequisite: WOMEN ST 2A03 or permission of the Director of Women's Studies

**WOMEN ST 3A03**  **ADVANCED FEMINIST THEORY**

An advanced course in feminist theory that explores the critical impact of recent work on identity and difference, nationalism, race, queer theory, poststructuralism and postcolonialism.

Three hours; one term

Prerequisite: WOMEN ST 2A03 or permission of the Director of Women's Studies
WOMEN ST 3003  TOPICS ON WOMEN AND THE ARTS
This course explores the roles of women in any one of the following fields: music, visual arts, film or theatre, whether as subjects or creators. Approaches may be practical, historical and/or theoretical, and interrelationships between the fields will be examined where appropriate.
Three hours; one term
Prerequisite: Registration in Level II or above. WOMEN ST 1A03, 1A3 are recommended.
This course may be repeated, if on a different topic, to a total of six units.

WOMEN ST 3B3  WOMEN AND VISUAL CULTURE
Students will explore ideas about representation, spectatorship and production in relation to issues of social difference, such as gender, race and class. Emphasis is on visually in forms such as film, video, television, advertising, etc. et cetera.
Two hour lecture and discussion, plus one weekly film screening; one term
Prerequisite: Registration in Level III or above and one of ART HIST 2A03; CMST 2F03, 2IT3, THTR&FLM 1B03 or both WOMEN ST 1A03 and 1A3
Cross-list: CMST 3B3, THTR&FLM 3P03
Not open to students with credit or registration in WOMEN ST 3T03, if the topic was Images of Women: Reading Art, Media and Popular Culture.

WOMEN ST 3D03  WOMEN IN A MULTICULTURAL SOCIETY
An interdisciplinary exploration of women's experiences in subcultures within a multicultural society, examining social and historical conditions, policies, and personal narratives. Topics may include immigration, voice, mobility, identity, hybridity.
Three hours; one term
Prerequisite: Registration in Level II or above. WOMEN ST 1A03, 1A3 are recommended.
Antirequisite: CMST 3W03

WOMEN ST 3G03  HISTORY OF WOMEN IN CANADA AND THE U.S. TO 1920
This course examines key areas of women's history, such as indigenous cultures, slavery, immigration, religion, "witchcraft", the family, sexuality, paid and unpaid labour, and the first wave of the women's movement.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 3W03
Antirequisite: WOMEN ST 2X03
This course is administered by the Department of History.

WOMEN ST 3GG  HISTORY OF WOMEN IN CANADA AND THE U.S. FROM 1920
This course examines key areas of women's history, such as the impact of the Great Depression and the Second World War, the civil rights movement, the sexual revolution, and the second wave of the women's movement.
Three hours (lectures and discussion); one term
Prerequisite: Registration in Level II or above
Cross-list: HISTORY 3WW3
Antirequisite: WOMEN ST 2X03
This course is administered by the Department of History.

WOMEN ST 3H03  CRITICAL RACE STUDIES
This course examines contemporary debates in critical race theory in an attempt to critically decode the operations of race in literary and cultural texts.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English, Peace Studies or Women's Studies
Cross-list: COMP LIT 3RR3, CSCT 3A03, ENGLISH 3A03, PEACE ST 3A03
This course is administered by the Department of English and Cultural Studies.

WOMEN ST 3H2  THEORIES OF GENDER AND SEXUALITY
This course explores a range of theories of gender and sexuality by working through readings from the intersecting fields of feminist, queer and masculinity studies.
Three hours; one term
Prerequisite: Registration in a program in Comparative Literature, Cultural Studies and Critical Theory, English or Women's Studies
Cross-list: COMP LIT 3AA3, CSCT 3A03, ENGLISH 3A03
This course is administered by the Department of English and Cultural Studies.

WOMEN ST 3I03  PHILOSOPHY AND FEMINISM
A study of philosophical issues in feminist thought.
Three hours; one term
Prerequisite: Registration in Level III or IV of any program or six units of Philosophy. WOMEN ST 1A03, 1A3 are recommended.
Cross-list: PHILOS 3I03
Offered in alternate years.
This course is administered by the Department of Philosophy.

WOMEN ST 3NN  WOMEN IN GERMAN LITERATURE AND CULTURE
This course explores the rich literary and cultural history of women writers, filmmakers and artists from the early Middle Ages to the present in German-speaking Europe.
Three hours; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 3NN, GERMAN 3NN
Offered in alternate years.
This course is administered by the Department of Linguistics and Languages.

WOMEN ST 3W03  INTERNATIONAL WOMEN WRITERS
A critical analysis of a selection of literary works by women authors from across the globe, with an emphasis on theories of gender and sexuality.
Two hours; one term
Prerequisite: Registration in Level II or above
Cross-list: COMP LIT 3W03
This course is administered by Comparative Literature.

WOMEN ST 3Z03  WOMEN AND MEN IN WAR AND PEACE
This course focuses on how gender and other differences shape our experiences of war and struggles for a more peaceful world.
Three hours; one term
Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies program or Peace Studies program or permission of the Director of either program
Cross-list: PEACE ST 3Z03.
This course is administered by Peace Studies.

WOMEN ST 4A06  INDEPENDENT RESEARCH
Students develop their own research projects, in regular consultation with a faculty supervisor. Upon completion, students present their results at a one-day open forum, and submit a written report.
Prerequisite: Registration in Level IV of the Women's Studies Program

WOMEN ST 4B03  TOPICS IN WOMEN AND THE ECONOMY
An analysis of economic policies and realities as they impact on women's lives. Topics may include women's access to capital, the distribution of gender across to health care, poverty and aging, and employment.
Three hours (seminar and discussion); one term
Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or permission of the Director of Women's Studies

WOMEN ST 4C03  TOPICS IN FEMINIST SCHOLARSHIP: WOMEN IN CANADA
An intensive seminar in a field reflecting the instructor's research interests. Students will be required to participate actively in discussions, write research papers, and research methods complementary to those used in WOMEN ST 4A06.
Three hours; one term
Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies Program or permission of the Director of Women's Studies

WOMEN ST 4D03  INDEPENDENT STUDY
In consultation with a faculty member, students will research an approved topic, on the basis of materials outside normally available course offerings. A major paper is required.
Prerequisite: Registration in Level IV of the Combined Honours in Women's Studies program and permission of the Director

WOMEN ST 4J03  CROSSING BORDERS: GLOBAL FEMINISMS
Examines how diverse women's lives are being transformed in a rapidly changing global society and the implications of women's changing places in society and space for feminist theory and practice.
Seminar (two hours); one term
Prerequisite: Registration in Level III or IV of the Combined Honours in Women's Studies program
Cross-list: CSCT 4J03, ENGLISH 4J03

Note:
The following courses, offered by other departments, may be used to help fulfill Women's Studies program requirements, provided that the prerequisite requirements of the home department are fulfilled.

COMP LIT 4E03  Topics in Comparative Literature (when the topic is Twentieth-Century Women Writers)

HISTORY 406  Women and Social Movements in the Nineteenth- and Twentieth-Century United States

KINESIOL 4T03  Gender, Sport and Leisure

LABR ST 3E03  Women, Work and Unionism

RELIG ST 2B03  Women and Religion

SOC WORK 4R03  Social Work with Women

SOCIOL 2006  Sociology of Gender
ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS

ACADEMIC FACILITIES

THE UNIVERSITY LIBRARY

Web Address
http://library.mcmaster.ca/
Email Address
libinfo@mcmaster.ca (Business, Humanities, Social Sciences, Science and Engineering)
hslib@mcmaster.ca (Health Sciences)

University Librarian
Jeffrey Trzeciak, B.S., M.L.S.

Health Sciences Library
Dorothy Fitzgerald, B.A., M.L.S./Director

Associate University Librarian
(Research, Learning and Research)
Vivian Lewis, B.A., M.A., M.L.S.

Associate University Librarian (Collections and Facilities)
Anne Pottier, B.A., M.L.S.

Associate University Librarian
(Library and Learning Technologies)

Thode Library of Science and Engineering
Kathryn Ball, B.A., M.L.S./Librarian

Innis Library
Jeanie An, B.A., M.L.S./Business Librarian

Administrative Services
Mary Ruth Lintkert/Administrator

The University Library System consists of Mills Memorial Library (Humanities and Social Sciences), the Innis Library in Kenneth Taylor Hall, housing the collection of British material numbers over 35,000 volumes and is the major Canadian collection in the field. Library fellowships in Eighteenth-Century Studies are offered annually. Among more modern materials are the papers of Vera Brittain, Anthony Burgess, Marian Engel, Margaret Laurence, Robert Fulford, Farley Mowat, Susan Musgrave, Matt Cohen and many others.

Business interests are reflected in such files as the General Steel Wares Archives, the J.M. Pigott Archives, the Macmillan of Canada Archives, the Clarke Irwin Archives, and the McClelland and Stewart Archives. Canadian social and political interests are documented in papers from the Canadian Union of Students, the Canadian Youth Congress, the SUPACUCNED papers and other related collections. There are holdings of the records of a number of labour unions, including USWA Local 1005, USWA, District 6, United Glass and Ceramic Workers (Canada), and the Hamilton District Labour Council.

Publications
- McMaster Library News

UNIVERSITY TECHNOLOGY SERVICES (UTS)

Web Address
http://www.mcmaster.ca/uts

Chief Information Officer (CIO)
Debbie Barrett, B.A.

Director, Service Development and Delivery
Heather Grigg

Director, Project Management
John Alley, B.A., M.E.D., M.B.A.

Associate Director, Enterprise Networks
Robin Griffin, B.Sc., Ph.D.

Associate Director, Enterprise Systems
Brian McEntegart, B.Sc.

UTS provides computing services in support of both administrative and networking activities. UTS manages a campus-wide network which is linked to the Internet. MUGSI (McMaster Undergraduate Student Information) provides students access to their academic and personal data via the web. Students can register and change courses on the web using SOLAR (Student Online Academic Registration).

Student computing labs for academic use, equipped with a minimum of Pentium IV 2.4, are located in Burke Sciences Building, Rooms 241, 242, 248, 249, John Hodgins Engineering Building, Room 232, 234, Arthur Bourns Building, Room 166, Kenneth Taylor Hall, Rooms B110, B121 and B123. All labs provide access to the Internet, popular word-processing and spreadsheet packages as well as various computing languages, statistical applications and specialized course software provided by instructors. Student consultants are available to assist customers in most of these computer labs. Assistance is also available in the Main UTS Office located in T-13, Room 127.

Every undergraduate and graduate student can register for a MAC ID account that includes an email account, web proxy server account, Web CT account, MacConnect and a printing account ($0.10 per page for laser printing). All of the McMaster residences have network wiring allowing students to access the Internet from the convenience of their room. This service is included in the residence fee.

In addition to the facilities operated by UTS, there is computer equipment located in various departments to support specific academic programs.

CENTRE FOR LEADERSHIP IN LEARNING

- T-13, Room 124, ext. 24540

Web Address
http://www.mcmaster.ca/cll
Email Address
cll@mcmaster.ca
horvathe@mcmaster.ca

Executive Director
Dale Roy, B.A., M.A.

Assistant Professor
Anne Milne, Ph.D.
The primary goal of the Centre for Leadership in Learning is to be a resource centre for people who teach at McMaster. The Centre serves individual instructors, departments and other groups directly affecting teaching and learning at McMaster. Our main goals are:

1. To provide opportunities for faculty and graduate students to build teaching skills and, in particular, to develop skills in self-directed learning, inquiry and other innovative teaching models.
2. To support faculty in investigating and using new technologies to enhance learning for our students.
3. To offer advice on policy and projects that support good teaching (e.g., award programs and the evaluation of teaching).
4. To assist individual faculty members and groups of faculty in conducting educational research to understand how students learn and what makes for effective teaching within a university environment.
5. To support and encourage innovation.
6. To assist and support the testing and evaluation of new learning models that build upon the inquiry approach and other innovative teaching models pioneered by McMaster University.
7. To share our knowledge of best teaching practices in higher education to improve the quality of education locally, nationally and internationally.
8. To enable the circulation of teaching and learning insights.

The Centre's activities include:

**The Inquiry Project:** The CLL participates in the development, evaluation and dissemination of the McMaster Inquiry Project as part of its larger Program for Active Learning. The central goal is to incorporate the concept of student as active learner throughout the entire undergraduate experience.

**Learning Innovation Grants:** These grants support the testing and evaluation of new learning models that build upon the inquiry approach and other innovative teaching models pioneered by McMaster University.

**Library Resources:** The CLL library is a collection of over 6,000 books, articles and journals on university teaching and learning. It is an excellent way to find ideas for improving and promoting active learning. You can visit the CLL library in the office (T13, Room 124) between the hours of 9:00 a.m. and 5:00 p.m. Alternatively, you can use keywords to search much of our library from our web site.

**Graduate Student Network Coordinator**

**Michael Potter, M.A.**

**Elvita Horvath**

**Administrative Assistant**

**Peer Consultation:** The University has a group of faculty members who are trained to help other instructors collect information on how a course is going. The process is designed to give instructors feedback on a course, not to give advice on how to teach it. The ultimate goal is to improve the quality of student learning. All communications are confidential, and every peer consultant has experienced the process as a client as well as a consultant.

**Refining a Course:** This model of course consultation takes approximately 2.5 hours. The course instructor, the students in a particular course, and a third party come together early in the term with the intention of modifying one particular course. Since the instructor has final responsibility, he or she initiates the process and sets the boundaries for what can be modified.

**Library Resources:** The CLL is a collection of over 6,000 books, articles and journals on university teaching and learning. It is an excellent way to find ideas for improving and promoting active learning. You can visit the CLL library in the office (T13, Room 124) between the hours of 9:00 a.m. and 5:00 p.m. Alternatively, you can use keywords to search much of our library from our web site.

**COURSES AVAILABLE:** A selection of teaching tips and other information about the CLL are available at the following web site: http://www.mcmaster.ca/cll.

**McMASTER MEDIA PRODUCTION SERVICES**

**Web Address**

http://www.media.mcmaster.ca

**Email Address**

moorcr@mcmaster.ca

**Media Production Services (MPS) provides complete media service to faculty, staff and students whether the project is for education, research or personal use.**

**PRINTING SERVICES DIVISION**

- DeGroote School of Business, Room B111, ext. 24447
- Health Sciences Centre, Room 1T5, ext. 22348
- Printing Services is equipped to provide all printing needs. The state-of-the-art facility allows for submission of both electronic files and traditional hard copy. The services include pre-press and file manipulation services, electronic printing in black and white and full colour plus traditional offset and full bindery services.

**CREATIVE DESIGN AND IMAGING DIVISION**

- Health Sciences Centre, Room 1G1, ext. 22301
- MPS Creative Design team provides a full range of communication pieces from concept to completion. Custom brochures, logos, newsletters, annual reports, poster presentations can be enhanced with digital images and traditional prints photographed by our team of photographers. We also provide lab services in-house for negatives, slides and custom black and white photography. Digital enhancement and photo editing can be achieved from slides, prints, negatives and electronic files. Output can be provided in either high or low resolution to produce large format posters, high quality prints as well as archival and web page content.

**VIDEOCONFERENCEING**

- Health Sciences Centre, Room 1G1, ext. 22301
- Videoconferencing is available in our in-house facility. Our completely interactive system is available for departmental, teaching or personal use. We provide archiving and streaming of conferences upon request.

**GERONTOLOGICAL STUDIES**

There are two Gerontology components at McMaster: the Centre for Gerontological Studies and the Department of Health, Aging and Society. (Further information can be obtained by contacting Gavin Andres in Kenneth Taylor Hall, Room 225, ext. 27961.)

**McMASTER CENTRE FOR GERONTOLOGICAL STUDIES**

- Kenneth Taylor Hall, Room 204, ext. 24449

**Director**

Margaret A. Denton, B.A., M.A., Ph.D.
The McMaster Centre for Gerontological Studies is involved in the promotion and development of multidisciplinary research and educational programs within the University and the local community. The Centre also provides a forum for collaboration on education, research, and practice with other community organizations. The mandate of the Centre is to foster research and education in aging. The Centre’s activities are partially supported by University funding. Specific projects are funded by public agencies, private foundations and user fees.

The Centre’s objectives are as follows:
1. to serve as an information and referral centre regarding gerontology, education and research activities at McMaster University. The newsletter Aging, Health and Society: News and Views and the Directory of Research on Aging at McMaster University provide information about research and new initiatives in the field of aging;
2. to coordinate and plan multidisciplinary initiatives in gerontology across Faculties and administrative units of the University. (Social Sciences, Health Sciences, Humanities, Science, Business, Engineering, Continuing Education);
3. to organize multidisciplinary educational events in gerontology for the university community, professionals and the general public, e.g. the McMaster Summer Institute On Gerontology Fall Symposium and spring workshop;
4. to advance gerontology at McMaster and in Canada by actively participating in provincial and national gerontological organizations and initiatives;
5. to initiate and support the development of new gerontological projects with older adults, community agencies, students, staff and faculty.
6. to actively support research, education, policy and practice for the benefit of older persons.

OFFICE OF INTERNATIONAL AFFAIRS

- Alumni Memorial Hall, Room 203, ext. 24700, 24211, 22916
Web Address: http://www.mcmaster.ca/oia

International Admissions Inquiries Email Address: insdin@mcmaster.ca

Associate Vice-President, International Affairs
Luke Chan

Senior Project Manager/International Liaison Officer
NI Jadon
Project Manager
May Zhai
Project Officers
Tania Hakim
Yvonne Maitment

Executive Assistant
Laurene Mollinga

McMaster University has become increasingly involved around the world in exchange agreements, institutional linkages and externally funded international programs concerned with collaborative research, education and human resource development, and with improving the delivery of services in such sectors as business, environmental protection, community health, engineering and technology development and transfer. The Office of International Affairs (OIA) has taken on an expanded international role that seeks to coordinate and facilitate McMaster’s expertise in a highly complex and changing global environment. OIA participates in four broad areas including international student recruitment, development of international projects and linkages, international programs and international fund-raising and development. OIA facilitates and coordinates the development of international agreements with other institutions, research and education agencies, including government and non-government organizations.

The Office of International Affairs is situated within the Office of the Vice-President, Research and International Affairs.
Personal Counselling

Students are encouraged to seek assistance from the Centre if they experience any type of personal, emotional, social or mental health concerns. Workshops, groups, and other sessions are also offered periodically throughout the year. For more information visit http://csd.mcmaster.ca/personal.

Academic Skills

The Centre offers workshops, small group seminars and individual counselling on a wide range of academic skills matters. Academic Skills Online is now available, which offers academic skills content and online videos 24 hours a day. Academic Skills services include:

- Advanced learning strategies (e.g. note taking, lecture and reading strategies, memory strategies, information management)
- Time management, personal organization and study habits
- Motivation, procrastination, stress and energy management
- Exam taking skills (e.g. multiple choice, exam preparation)
- Academic writing skills development

For more information and to see what workshops are currently available, please visit http://csd.mcmaster.ca/academic.

Services for Students with Disabilities

The Centre for Student Development can provide advice to current and potential students and applicants with disabilities. Once admitted to the University, students with disabilities are encouraged to contact the Centre at an early date (two or three months prior to registration) to ensure sufficient time to make arrangements regarding their needs. Even if accommodation or assistance is not immediately required, students are encouraged to maintain contact with the Centre in case a need for assistance should arise at a later date.

The Centre assists students with issues concerning the accessibility of campus facilities, the provision of special equipment and alternative media formats and other issues. It provides support for students with chronic medical and mental health disabilities and students who are deaf or hard of hearing, and for students with low vision or blindness, or a mobility/functional disability. For students with a learning disability or ADHD, CSD offers the ATLAS Program. It also offers counselling, advice, support and workshops to help students meet their educational objectives. For more information visit http://csd.mcmaster.ca/sswd.

Assistive Technology Learning and Academic Support (ATLAS)

The ATLAS Program which is located in the Commons Building Room B104, offers assistive technology training and support for software packages to help students with learning disabilities or ADHD with their reading, writing and organizational skills. In addition, computer stations with assistive technology software are available in the lab for students to use.

Students can learn various skills such as reading, writing, time management, test preparation and study strategies from our Learning Strategist. Support is also offered to assist students to understand the nature of their learning disability. Students can meet with the LD Coordinator to determine eligibility for the service, or to receive information if they are wondering if they have a learning disability. For more information, drop by our lab in Commons Building Room B104, call (905) 525-9140, ext. 24354, or visit http://csd.mcmaster.ca/atlas.

English as a Second Language (ESL) Support @ Mac

If their native language is not English, students may wish to use one or more of the following services: daytime courses in listening and speaking, academic reading, academic writing, presentation skills, and English pronunciation; evening conversation classes in English, Speakeasy (one-on-one conversation) and the Conversation Circle (group-based); Opening Doors: Preparation for Employment; or The Writing Clinic. Evening classes are also offered during the academic term.

All classes are non-credit and free to all McMaster students. For more information on any of the ESL programs, please visit our web site at http://csd.mcmaster.ca/esl, or contact the ESL coordinators at csdesl@mcmaster.ca.

The Dr. Mary E. Keyes Leadership Program

The goal of the Dr. Mary E. Keyes Leadership Program is to assist students in developing personal and professional skills necessary to become responsible community leaders and role models. The focus of the program is on becoming a collaboratively oriented team player and leader, and the Centre's courses and workshops aim to introduce and teach students some of those skills.

The Certificate is comprised of a series of required and elective courses and workshops, community service and a short written component. Additional resources are available on the Leadership web site and events such as a Poster and Speaker Series are offered during the year. Please note that the certificate does not qualify for credit towards an undergraduate degree. For more information and to register for courses and workshops, please visit our web site at: http://csd.mcmaster.ca/leadership.

Peer Helper Program

Peer Helpers are full or part-time undergraduate and graduate student volunteers who play an integral role in delivering programs and services at the Centre for Student Development and Career Services at McMaster. All faculties and levels of study are represented within the Peer Helper Program.

Peers are trained and supervised by professional staff and assist students with academic, disability, personal and career needs. The Peer Helper Program represents one of the premier student personal and professional development opportunities at the University. For more information, please visit our web site at http://csd.mcmaster.ca/peerhelper.

International Student Services (ISS)

The major purpose of the office is to assist international students, visiting scholars, post-doctoral fellows and faculty. ISS provides a number of services such as:

- reception and orientation for newly arriving students,
- preliminary information concerning immigration matters,
- an exchange and student mobility program, where students can apply to work, study, volunteer, intern, or teach abroad,
- liaison with sponsoring agencies, foreign governments, consulates and embassies, and
- general advising and counselling regarding personal, financial and academic problems.

ISS is also the Plan Administrator for the University Health Insurance Plan (UHIP) which is mandatory for all international students.

Events and Volunteer Opportunities

Throughout the academic year, the Centre holds various workshops, events and groups relating to its wide range of services. Visit http://csd.mcmaster.ca/events for current offerings.

There are many ways for students to use their special skills to help someone else. Some of the many volunteer opportunities are:

1. Speakeasy/conversation Circle
2. Note taking Program (volunteer or one-on-one)
3. Volunteer (Students with Disabilities)
4. Peer Helper Program

THE OFFICE OF ACADEMIC INTEGRITY

> McMaster University Student Centre, Room 211, ext. 24303

Web Address: http://www.mcmaster.ca/academicintegrity

Email/Address: thyrera@mcmaster.ca

Academic Integrity Officer

Andrea Thyret-Kidd

The Office of Academic Integrity serves as the primary resource to students, faculty and staff on all matters related to academic integrity. Please visit the web site to find information on plagiarism, inappropriate collaboration and to test your knowledge of academic integrity.

THE OFFICE OF HUMAN RIGHTS AND EQUITY SERVICES (HRES)

> McMaster University Student Centre, Room 212, ext. 23641

Web Address: http://www.mcmaster.ca/hres

Email/Address: hres@mcmaster.ca

Director

Mark Walma

ext. 23641

Email: walma@mcmaster.ca
**ACADEMIC FACILITIES, STUDENT SERVICES AND ORGANIZATIONS**

**Program Coordinator**
Vilma Rossi  
ext. 24235  
Email: rossiv@mcmaster.ca

**Human Rights Educator**
Deidre Walton  
ext. 24067  
Email: dwalton@mcmaster.ca

**Administrative Assistant**
Elaine Hay  
ext. 27581  
Email: hayelain@mcmaster.ca

HRES is responsible for human rights issues on campus and administers the Sexual Harassment and Anti-Discrimination policies for McMaster University. The goal of the office is to ensure that students, staff and faculty can live, learn and work in an environment free from all forms of harassment and discrimination. HRES takes two avenues of approach to accomplishing this goal: education/training and resolution of complaints.

The services offered by HRES are available to the entire McMaster community. Our staff are available to listen to questions or concerns regarding situations that may involve harassment, discrimination or other human rights issues. We provide advice, explain strategies for dealing with discrimination or harassment and identify options for how to approach such situations, either through informal mediation or the lodging of a complaint under university policies. Except in rare circumstances where the situation involves immediate danger to a member of the community, HRES services are completely confidential and advice is offered without obligation to the person contacting the office.

In addition to services related to specific situations, HRES is also responsible for developing and implementing training workshops and educational programs dealing with human rights, anti-discrimination and anti-harassment topics. In meeting this mandate, we offer regular awareness-raising programs and situation-specific workshops as well.

The HRES office is located on the second floor of the Student Centre and is completely wheelchair accessible. The office's fax number is (905) 522-7102. Our office hours are 8:30 a.m. to 4:30 p.m., or after hours by appointment.

**ATHLETICS AND RECREATION**

**Web Address**
http://www.athrec.mcmaster.ca

**Email Address**
iwyne@mcmaster.ca (Customer Service)

**Director of Athletics and Recreation**
Thérèse A. Quigley

The Department of Athletics and Recreation provides a wide variety of opportunities for students involved in high performance athletic competition, intramural and club competition as well as recreational, fitness, instructional and outdoor recreation programs. A diverse program of recreational opportunities is available for those who wish to keep fit, compete at their own individual level and enjoy sports and active living opportunities of their choice. Access to the Athletic Facilities on campus is open to all McMaster students.

The fall of 2008, McMaster opened the new David Braley Athletic Centre. The facility features one of the largest fitness centres in Canada (17,000 square feet), a cycling studio, fitness studio, two multipurpose studios, new locker rooms, two additional gymnasiums (seven gymnasiums in total), a 200-metre indoor track, international squash courts and an indoor climbing wall.

McMaster Athletics and Recreation facilities also include a 50-metre pool, an outdoor 400-metre track, dance studio, activity studio and seven North American squash courts.

The Department of Athletics and Recreation ALTITUDE program utilizes the 50-foot Alpine Tower and Team Development Course. The first of its kind in Canada, it includes over 30 climbing routes, rope ladders, swinging logs, a giant swing and low ropes elements. Many different club activities are available, along with instructional assistance. Off-campus field trips in canoeing, rock climbing, horseback riding, hiking and many other opportunities are offered.

A highly developed intramural program is a very popular outlet for student activity. Intramurals run from early fall until late spring and provide students with a competitive environment that fosters social interaction.

The varsity program at McMaster fields 41 teams competing at the club, provincial (OUA) and national (CIS) level. Highly skilled coaches help McMaster student-athletes achieve their potential while competing against other universities in Ontario and across Canada. The outstanding efforts of McMaster's student-athletes and the social involvement of student supporters are focal points of student life on campus. Varsity events are a major source of school spirit for competitors and spectators alike.

The Department of Athletics and Recreation takes pride in the quality programs and services provided to the McMaster community, and urges all members of the community to take advantage of its facilities and programs.

**BOOKSTORE**

> Gilmour Hall, Room B101, ext. 24751

**Web Address**
http://titles.mcmaster.ca

**Email Address**
booksr@mcmaster.ca

**Director**
Donna Shapiro

Titles, McMaster University Bookstore, is owned and operated by the University. Titles is dedicated to assisting the learning process and proceeds from bookstore sales fund student services. Titles offers a wide range of course materials that have been selected by professors for use in their courses. With three permanent and two temporary bookstores we strive to meet the needs of McMaster students.

Titles offers a buyback program and purchases used books back from students at the end of term. For more details regarding this program visit http://buyback.mcmaster.ca.

Bookstore charge accounts may be set up using a student ID card once a valid registration sticker has been obtained. The current credit limit is $1,600.

**MAIN BOOKSTORE**

> Gilmour Hall, Room B101

The main bookstore is located in the basement of Gilmour Hall and features an extensive general book and magazine selection. Our giftware, clothing and stationery departments feature McMaster memorabilia. Our computer centre, Mac Micro, has an extensive selection of electronic hardware, software and peripherals. A full service Post Office is on site and Copicards for the library may be purchased here. During the first few weeks of September and January a selection of first year course materials are temporarily located in this location.

**THE TANK**

> Togo Salmon Hall, Room B203

This store contains all course materials, new and used, that are required. In order to save students money the bookstore actively seeks out as many used textbooks as possible. During peak periods some of the course materials will be relocated to temporary stores in order to reduce line-ups.

**HEALTH SCIENCES BOOKSTORE, MEDIASHOP.COM**

> Health Sciences Centre, Room 1G1

This store specializes in Medical, Nursing and Health Sciences titles. This store also features an extensive selection of current reference books in all health related fields. Stethoscopes and diagnostic instruments are also available here.

**SUBTITLES**

> Downtown Centre

Located inside McMaster's Downtown Centre, Subtitles carries all course materials for the certificate classes held at the Downtown campus, 50 Main Street East, Hamilton. This is a temporary bookstore that operates at the start of term in September, January and May.

In addition, at the end of August and beginning of September a temporary bookstore is opened to house a portion of Level 1 course materials. The location of this store changes depending on room availability and students will need to check the web site or visit the store for more details.
CAREER SERVICES

- Gilmour Hall, Room 110, ext. 24254

Web Address
http://careers.mcmaster.ca/

Email Address
careers@mcmaster.ca

Manager
Lisa Boniface

For a complete listing of Career Services staff, please access our web site at: http://careers.mcmaster.ca/

At Career Services our purpose is to help you manage your career. Whether you are a current student or alumni, we can help you get where you want to go. From career planning to job search, we have a wealth of resources and services available to you. Our staff is made up of experienced, knowledgeable professionals with a strong track record of assisting students and alumni in pursuing their career and educational goals. Our programs and services include:

- Career and employment counselling
- Drop-in career advising
- Job postings and On-Campus Recruitment (CCR) through McMaster's online job posting system, eRecruiting
- Career and education resources and information
- Resume critiques and workshops
- Interview skills and job search workshops
- Personality and interest testing
- Educational planning, including workshops on applying to professional schools (law, teaching, medicine, etc.)
- CAREERLINKS mentoring program
- Events such as Career Fair, Continuing Education Fair and Summer Job Fair

The office hours are 8:30 a.m. to 4:30 p.m. Monday to Friday. For further information, please phone (905) 525-9140, ext. 24254 or fax (905) 529-8927.

OFFICE OF STUDENT FINANCIAL AID & SCHOLARSHIPS

- Gilmour Hall, Room 120, ext. 24319

Web Address
http://fsas.mcmaster.ca

Email Address
awards@mcmaster.ca or osap@mcmaster.ca

Director
E. Seymour

The office administers a variety of programs which are accessed by more than half of all full-time students as well as a large number of part-time students attending McMaster. These programs include the OSAP (Canada-Ontario Integrated Student Loans and Grants) out of province government financial aid, U.S. Loans, Part-Time Canada Student Loan and Canada Study Grants. Ontario Work Study Program, Ontario Special Bursary Program, University Bursary and Emergency Loan Program, and Undergraduate Scholarships. In addition, the office provides administrative support to outside agencies offering scholarships and bursaries to students attending McMaster.

The office offers financial advice, budget counselling and information service to current and potential students designed to help create a plan and cover post-secondary education expenses. All discussions with students are voluntary, private and confidential.

Drop-in style counselling is available.

For more detailed profiles of program offerings, please refer to Undergraduate Academic Awards and Student Financial Aid sections in this Calendar.

CAMPUS HEALTH CENTRE

- Medical Clinic, McMaster University Student Centre, Room B101, ext. 27700
- Health Education, McMaster University Student Centre, Room B106, ext. 27619

Web Address
http://www.mcmaster.ca/health

MEDICAL DIRECTOR

Jan Young

CLINIC DIRECTOR

Julie Fairservice

Health care is available to all university students year-round at the Campus Health Centre (CHC). Appointments can be made by calling (905) 525-9140 ext. 27700.

Staffed by family physicians, registered nurses, health educators and administrative staff, the Campus Health Centre provides medical care similar to a family physician. Services include medical assessment and treatment; annual health examinations; birth-control counselling and low cost sale of the birth control products and emergency contraception; allergy injections; immunization; on-site laboratory; pregnancy tests; screening for sexually transmitted diseases; HIV prevention and testing; and counselling and information or counselling for any personal health concerns. A specialist in sports medicine is available for physical injuries. Our health centre provides on-site access to complementary health services including dietitian and Naturopathic Medicine.

Our health education staff are available in the Health and Wellness Centre at (905) 525-9140, ext. 27619 in the McMaster University Student Centre, Room B106. They are available to individuals or groups to address questions or concerns about health and lifestyle issues and academic studies. Popular topics are disease prevention, healthy relationships, sexuality, contraception options, nutrition and body image, stress and emotional health and alcohol/drug/tobacco use. Smoking cessation service is offered during the academic year. Free access is available to educational pamphlets, videos, computer programs and a lending library of books, reference material and information packages. Further information and an update on services can be obtained by calling the Campus Health Centre office at (905) 525-9140, ext. 27700 or visit our web site at http://www.mcmaster.ca/health.

HOSPITALITY SERVICES

- Commons Building, Room 116, ext. 24422

Web Address
http://hospitality.mcmaster.ca

DIRECTOR, HOSPITALITY SERVICES

Albert Y. Ng

McMaster Hospitality Services is a self-supporting department dedicated to providing students with healthy, nutritious and flavorful food. We offer vegetarian choices, international food made available as a carry-out or delivery option, as well as quick snacks and made to order entrées. Our goal is to make the university dining experience exciting and fun, while at the same time providing high quality food services, variety and good value.

All students living in residence are required to purchase a meal plan. The MAC Express Meal Plan works on a debit system and offers a variety of meal plan options for residence and off-campus students. Depending on the meal plan chosen, this allows students to use one card at all Hospitality Services locations and at our off-campus vendors. For 2006-2007 the off-campus vendors included Boston Pizza, Baslique, East Side Mario's, Kelsey's, Mahai, Pita Pit, Pizza Pizza, Quarters Pub and Ramshead. Off-campus students and other members of the University community may purchase a meal plan option at the MAC Express Centre located in the Commons Building, Room 128. For more information on meal plans, contact us at ext. 27448, via email at express@mcmaster.ca or visit our web site.

McMaster Hospitality Services has seventeen dining facilities conveniently located across campus:

- Bymac is the newest facility on campus located in the David Braley Athletic Centre and features the latest in dining trends which include a Pizza Pizza, Tim Hortons and Freshens' nutritious concepts.
- Bridges Café originally developed from a student-based initiative, is located in the renovated Refectory basement and provides an exciting vegetarian concept cafeteria, catering to the ideological and religious dietary needs of students, staff and faculty on campus.
- Café One in Michael G. DeGroote Centre for Learning and Discovery provides Tim Hortons coffee and a variety of ready made items.
- Café 2000 is located in the Institute for Applied Health Sciences and features Mr. Sub, Pizza Pizza, Tim Hortons, a 'wrap' station and more.
- Commons Marketplace provides students with a varied dining experience and is home to Your Healthy Choice, Pacific Rim, Chef's Table, Pillar's Deli and Pizza++.

- East Meets West Bistro is our fine dining facility located in the Mary E. Keyes Residence Building. This restaurant is set in a two-story glass atrium and features Asian and Continental cuisines. bats offers gourmet pizza, rollisserie and stir fry menus.

-Located nearby, My Mini Mac offers Needa Pita and Tim Hortons in addition to a number of convenience store products.

- La Piazza, an open "Marché Style" marketplace is located in the McMaster University Student Centre and features Pizza, Tim Hortons, Pillar's Deli and Creation X International Grill. You will also find made in Japan, Tim Hortons and Williams Coffee Pub in the future.

-MAC Express locations are conveniently found in the John Hodgins Engineering Building and Chester New Hall.

-Made in Japan prepares healthy meals with only water and fresh ingredients. Cooks prepare wholesome dishes in the McMaster University Student Centre.

-Math Café in Hamilton Hall provides fair trade coffees from regular coffee to a gourmet cappuccino with a variety of ready made items.

-Tech Wave Café located in the Information Technology Building, features Starbucks coffee in addition to a variety of delicious desserts.

-Time Hortons is a staple of Canadian culture; the Student Centre and other five locations of Tim Hortons serve fresh brewed coffee as well as donuts and muffins baked right on campus.

-Williams Coffee Pub in the McMaster University Student Centre has gourmet coffees and specialty beverages which are perfectly complemented by pastries, desserts and sandwiches to suit every taste.

-The Wokery in Kenneth Taylor Hall, is a popular lunch destination for Chinese food prepared fresh to order.

-Visit our web site at http://hospitality.mcmaster.ca for our Dining on Campus menus, hours of operation, special events, meal plan information and more.

HOUSING AND CONFERENCE SERVICES

Web Address
http://housing.mcmaster.ca

Email Address
housing@mcmaster.ca

Director, Housing and Conference Services
Catherine Miller

RESIDENCES

The University owns and operates 12 on-campus residence buildings, accommodating a total of 3,683 students. The ten traditional-style residences offer a variety of themed and lifestyle options: Anderson House for those wishing to balance healthy living with academic studies and all-female environments.

In addition, an apartment-style residence (Bates Residence) accommodates 503 male and female students and a suite-style residence building (Mary E. Keyes Residence) houses 280 students. All apartments and suites are furnished (except for a television). Eighty percent of the spaces in residence are reserved for incoming first-year students. Admission offers to residence are based on a student's admission average to his/her academic program. All students with a 78% admission average are guaranteed a space in residence provided they meet the established resident application and deposit deadline.

Level I students will receive instructions regarding application procedures with their offer of admission to the University. To accept the offer of residence, a student's Resident Application and deposit must be received by the Residence Admissions Office before the specified deadline. Applications are completed online. Deposits are only accepted by credit card on-line (VISA/MasterCard) or by money order received in the Residence Admissions Office. No other payment methods are accepted.

This deposit will then be applied to the student's residence fees. Students who do not receive an offer of residence with their offer of admission to the University may apply to the residence waiting list.

RESIDENCE ADMISSIONS

This area is responsible for residence admission policies and procedures, including: the Residence Agreement/Contract; residence applications, deposits and room assignments; the waiting list and withdrawal procedures; medical and grade appeals; and on-going Housing publications. Enquiries about residence should be directed to Residence Admissions, Housing and Conference Services, Commons Building, Room 101, (905) 525-9140 ext. 24342; email: housing@mcmaster.ca.

RESIDENCE LIFE

This area is responsible for programs designed to provide students with a positive living and learning environment and to assist them with the transition to university. Living in residence provides students with the opportunity to participate in educational and personal development interest programs, and positive and inclusive social activities. Residence Life also provides leadership opportunities including student staff, peer helper and elected residence council positions.

Residence students and staff are supported by six full-time Residence Managers, all of whom live in residence. The staff are available to answer questions, ensure community standards are followed and coordinate programs and activities.

All students agree to be bound by the Residence Agreement/Contract and the Residence Code of Conduct as a condition of applying to residence at McMaster University.

RESIDENCE FACILITIES

The Residence Facilities Team is responsible for repairs and maintenance, renovations, student damages, safety and security needs, furnishings, cleaning, residence recreational facilities, and the 24 hour Housing and Conference Services Centres located in Mary E. Keyes Residence (west campus, ext. 24898) and the Commons Building (north campus, ext. 27222).

CONFERENCE SERVICES

Web Address
http://housing.mcmaster.ca/conf/mainpage.html

Conference Services is responsible for booking all indoor and outdoor non-academic events on campus.

During the summer, Conference Services arranges accommodation, food and meeting facilities on campus for conferences, conventions, and touring groups. Residence accommodation is also available for summer students and casual guests. For more information, please visit our web site.
OFF-CAMPUS HOUSING

> McMaster University Student Centre, Room B112, ext. 24086
Web Address: http://www.maccho.com
Email Address: ocho@mcmaster.ca

The Off-Campus Resource Centre (OCRC) maintains up-to-date lists of available rental accommodation in Hamilton and the surrounding area. Among other services, it also provides free bus route maps, city zone maps, free use of telephones for students to contact landlords, information on housing by-laws and Tenant Protection Act, and personal assistance with the housing search. OCRC is operated on a year-round basis. Visit our web site to see all the listings of available rental units by zone and category.

TRANSPORTATION, PARKING AND SECURITY

ALTERNATIVE COMMUTING AND TRANSPORTATION (ACT OFFICE)

> E.T. Clarke Centre, ext. 24772
Web Address: http://ACT.mcmaster.ca

Travel to and from the University on foot, bicycle, by transit and in carpools is encouraged.

Full-time undergraduate students benefit from a U-pass program where they have unlimited access to the city of Hamilton transit by simply showing their student card to transit bus operators. GO Transit provides frequent and direct services to campus from the Lakeshore corridor and the Highway 407 corridor. The University continually monitors the bike rack supply on campus to provide convenient facilities for cyclists and SWHAT (Student Walk Home Attendant Team) is a student program offering escorted walks home from campus. The University also subscribes to a web based ride matching program to assist people to find carpool partners to share the costs of driving and reduce the demand for parking at McMaster.

PARKING SERVICES

> E.T. Clarke Centre, ext. 24232
Web Address: http://parking.mcmaster.ca

Camping parking facilities are limited and the availability of spaces cannot be assured.

Travel to and from the University on foot, by public transportation and in car pools is encouraged.

Students wishing to park a motor vehicle or motorcycle on campus are required to complete and submit a parking application. Applications from undergraduates are accepted between June 1 and the close of the last business day of July. It is now possible to apply electronically by writing to: http://parking.mcmaster.ca Completed application forms, accompanied by a Visa or MasterCard number and authorizing signature, or a cheque or money order payable to McMaster University, in the amount required for the full period must be forwarded to: Security and Parking Services, E.T. Clarke Centre, Room 102, McMaster University, Hamilton, Ontario L8S 4K1. Cheques post-dated after 4:00 p.m. on the last day of July will not be accepted. (Parking applications and/or parking permits will be withdrawn and additional fees applied for NSF cheques or declined credit cards.)

If any applicable zone is oversubscribed, there may be a lottery draw.

Undergraduate students not in residence may apply for available spaces in Zone 6 only. The procedure for allocation of these spaces will be developed in consultation with the MSU Executive. Students in residence requiring parking may apply at any time of the year.

Special arrangements can be made for disabled parking privileges. Copies of the complete rules and regulations concerning parking at McMaster University are available at the Security and Parking Services Office or on the web at: http://parking.mcmaster.ca/

The Security and Parking Services Office has the overall responsibility for dealing with parking matters. If you have a problem related to parking, contact the following: 93.3 CFMU Emergency First Response Team (EFRT), a radio station (93.3 CFMU

SECURITY SERVICES

> E.T. Clarke Centre, ext. 24281
Web Address: http://mcmaster.ca/security

Security Services coordinates with other University services to make McMaster a safe and secure environment. Uniformed Special Constables patrol the campus on foot, bike and car. Security Services works under an agreement with the Hamilton Police Service to provide both security and police services on the campus. Telephone calls are always answered personally for emergencies or general information. Please visit our web site for more information.

McMaster Security Services primary responsibility is the protection of persons and property within the McMaster community. This office is open 24 hours daily. Security utilizes CCTV cameras on campus to enhance safety and security. These cameras are monitored by Security Services.

Security Services also offers the assistance of a Crime Prevention Sergeant. This Sergeant is available for any questions or concerns on safety and security issues on the campus. Crime Prevention can be reached at ext 26060.

McMASTER UNIVERSITY CHAPLAINCY CENTRE

> McMaster University Student Centre, Room 231, ext. 24207
Web Address: http://www.mcmaster.ca/chaplain

The McMaster Chaplaincy Centre is open to all students and members of the campus community. The Chaplaincy Centre is staffed by Carol Wood, Ecumenical Chaplain; Michael Fallon, Christian Reformed Chaplain; Father Peter Nguyen, Roman Catholic Chaplain and the Assistant to the Chaplains. Regular office hours fall between 9:00 a.m. and 4:30 p.m., Monday through Friday, and between 4:30 p.m. and 7:00 p.m. The office is located in the Mcmaster University Student Centre, Room 231, ext. 24207.

The Centre offers personal and confidential counselling for a wide range of concerns; groups to deal with topics such as bereavement support; and an experience of community through suppers, Christian worship and discussion groups. In addition, the Chaplaincy Centre provides advocacy for students in need; works cooperatively with a variety of student groups; and promotes interfaith events and dialogue on campus.

STUDENT GOVERNMENT AND ORGANIZATIONS

McMASTER STUDENTS UNION

> McMaster University Student Centre, Room 201, ext. 22003
Web Address: http://www.msu.mcmaster.ca

Purpose: The McMaster Students Union is a student-operated corporation with a cash flow exceeding 3.5 million dollars and extensive operations spanning over 30 unique departments. More than 18,000 full-time undergraduate students (enrolled in 18 units or more) belong to the MSU by virtue of their supplementary fees paid at registration.

Services of the MSU: Considered one of the most extensive student unions in Canada, the MSU offers an array of services as well as employment and volunteer opportunities for students at McMaster. These services include the campus restaurant/night club (Quarters), a convenience store (The Union Market), a games room (House of Games), the Underground Media and Design Centre, an information centre (Compass), the Gay, Lesbian, Bisexual and Transgendered Centre, a yearbook (The Marmot), the Student Health Insurance and Dental Plans, a campus events department (which organizes much of Welcome Week, Homecoming and other special events), MSU Childcare Centre, and a jointly funded Ombuds Office. The MSU offers volunteer opportunities through the Emergency First Response Team (EFRT), a radio station (93.3 CFMU
FM), a newspaper (The Silhouette), a Student Walk Home Attendant Team (SWHAT), a Student Health Education Centre (SHEC), the Maroons, a foodbank, and more than 200 clubs, including academic, political, religious, cultural and general interest.

**Student Government:** The Student Representative Assembly (SRA) consists of 35 elected individuals who represent student needs in crucial matters and is the governing body of the MSU. The President is selected by the entire student body while the Vice-President Administration, Education and Finance are elected by the SRA.

The MSU also offers a First Year Council made up of first year students which deals with issues specific to first year students.

**Student Centre:** The MSU is the major stakeholder in the McMaster University Student Centre. Most of the mentioned services are located here, including the President and student representatives offices. For further information, visit the MSU Main Office, MUSC Room 201, or call (905) 525-9140, ext. 22003.

**Fraternities and Sororities are not recognized by McMaster University and are not permitted to associate with the University in any way. The University is not responsible for any acts by these groups.**

**Ombuds Office**

- McMaster University Student Centre, Room 210, ext. 24151
- **Web Address**
  http://www.mcmaster.ca/ombuds
- **Email Address**
  ombuds@mcmaster.ca
- **Ombudspersons**
  Shelley Lancaster
  Carolyn Brendon

  The Ombuds Office provides information and advice to the McMaster community to assist in the resolution of University related complaints and concerns. The Ombuds Office handles academic and non-academic matters as well as issues arising out of the provision of services. Students come to the Office with questions about such issues as grade appeals, petitions, codes of conduct and employment on campus.

The Ombuds Office is a neutral, confidential service provided by the McMaster Students Union in conjunction with the University.

**McMaster Association of Part-Time Students (MAPS)**

- McMaster University Student Centre, Room 234, ext 22021
- **Web Address**
  http://www.mcmaster.ca/maps/
- **Email Address**
  maps@mcmaster.ca

  MAPS exists to look after the special interests of part-time degree (taking less than 16 units) and certificate students, who have a different educational experience than full-time students. University fees for these students include an assessment to support the Association.

  When classes are in session MAPS office hours are:
  - Monday to Thursday: 9:30 a.m. to 9:30 p.m.
  - Friday: 9:30 a.m. to 2:00 p.m.

  All other time, MAPS office hours are:
  - Monday to Thursday: 9:00 a.m. to 7:00 p.m.
  - Friday: 9:30 a.m. to 2:00 p.m.

  If students have a question pertaining to university procedure or a problem of any kind the MAPS staff can either supply the answer or refer individuals to someone who can. A handbook is published annually to help guide students through the University system and it is also mailed to students.

  The part-time student newsletter, *The Link*, is published on a regular basis and is also mailed to students. If a copy is not received, students are advised to call or drop the office.

  MAPS provides the opportunities and methods for part-time students to communicate their needs and ideas to university officials, by ensuring representation on university governing bodies and committees, and by the Association's direct contact with university administrators on matters such as course availability, evening services, tuition and ancillary fees.

**MAPS is also pleased to offer a number of awards including:**
- the Centennial Award for degree students,
- the Centennial Award for certificate/diploma students,
- the Martin W. Johns Award and a Gold Medal.

  MAPS has also established bursaries to assist students who have demonstrated financial need. More information is available on the MAPS web site.

  There are three computers in the office where students can access their student record, surf the Web, use email, Word or Excel.

  MAPS provides a bridge between students and the University, helping them to feel a part of McMaster's student body. We urge students to participate as often as possible in the academic and social events which are available at McMaster.

**McMaster University Alumni Association**

- President's Residence, ext 23900 or 1-888-217-6003 (Toll-free)
- **Web Address**
  http://www.mcmaster.ca/ua/alumni
- **Email Address**
  alumni@mcmaster.ca

  Following convocation, all graduates of McMaster University automatically become members of the McMaster Alumni Association (MAA) and join our over 125,000 alumni living in 125 countries. The Association's mission statement addresses a number of goals: support of McMaster University, involvement of alumni, recognition of alumni achievements, alumni services and benefits, alumni communication, and involvement of current students.

  Our alumni branch program creates connections in geographic areas like Brantford, Vancouver, Ottawa, Toronto and Hong Kong. Branches bring together students and alumni within department or groups like the Michael G. DeGroote School of Business Alumni Association. Other branches have specific interests like Mac grads who share a common interest or affinity, like the MSU Alumni Association.

  The MAA also offers programs in the greater Hamilton community. The McMaster Alumni Jacks (MAC) Luncheon Series brings high profile speakers to downtown Hamilton to talk with McMaster alumni, students and friends, and the Albert Lager Event Series expands the educational relationship with Mac into a lifelong affair by providing fun and unique opportunities to enjoy lectures, trips and seminars. Alumni Weekend occurs every year in June and is the largest single alumni event. It incorporates class reunions and other events like the Alumni Gallery Induction Ceremony designed to attract alumni to the McMaster campus. In the Fall, Homecoming is another important highlight of the alumni calendar.

  The Association also gives its members the chance to obtain unique or discounted products or services through its Services and Benefits portfolio. Alumni can experience fantastic trips, obtain unique McMaster merchandise, use their McMaster MasterCard to help benefit the Association, receive high-quality home, auto, life, dental and extended health insurance at group rates, or investigate the other services offered through the MAA.

  The McMaster Alumni Association also acts as an advocate, with representatives on the University Senate and Board of Governors. These representatives, along with other elected alumni, compose the MAA Board of Directors, and along with hundreds of other alumni volunteers, provide alumni programming in conjunction with the office of Alumni Advancement. Both the Board of Directors and the Association can be contacted at the President's Residence, or by phone at (905) 525-9140 ext 23900, 1-888-217-6003 (Toll free), by email at alumni@mcmaster.ca or by fax at (905) 524-1733.
STUDENT FINANCIAL AID

WEB ADDRESS: http://stfas.mcmaster.ca
EMAIL ADDRESS: osap@mcmaster.ca

Associate Director, Student Financial Aid
Tracie Long

For information on any of the programs which follow, please contact:
Office of Student Financial Aid & Scholarships
Gilmour Hall, Room 120
McMaster University
Hamilton, Ontario, L8S 4L8
Telephone: (905) 525-9140, ext. 24319

ONTARIO STUDENT ASSISTANCE PROGRAM

Financial aid to help students meet the costs of their post-secondary education is available from the federal and provincial governments through the Ontario Student Assistance Program (OSAP). The various components of OSAP are:

• Canada-Ontario Integrated Student Loans
• Canada Study Grants
• Ontario Special Bursary Plan
• Ontario Work-Study
• Child Care Bursary
• Bursaries for Students with Disabilities/Canada Study Grant for the Accommodation of Students with Permanent Disabilities
• Queen Elizabeth II (Aiming for the Top) Scholarship
• Millennium Bursary
• Part-time Canada Student Loans/Canada Study Grants for High-Need Part-time Students

To be eligible to be considered for assistance under these OSAP programs, a student must be a Canadian citizen, permanent resident of Canada or a protected person; must meet Ontario residency requirements and must meet the specific application requirements of the program. The amount of financial aid awarded is based on financial need. It is strongly recommended that students apply for OSAP at http://osap.gov.on.ca by July 15 to ensure that their applications are processed by the start of classes.

All of the government programs described in this text are modified and restructured annually to reflect the changing needs of students from the Province of Ontario. It is, therefore, recommended that you discuss your specific financial requirements with a Student Loan Officer in the Office of Student Financial Aid & Scholarships as early as possible and review program details and eligibility criteria at http://osap.gov.on.ca.

Canada-Ontario Integrated Student Loans

Eligible students demonstrating financial need, who are enrolled in at least 60% of a full course load (students with permanent disabilities may enrol in 40% of a full course load) per term in an approved degree, diploma or certificate program of at least 12 weeks in length at a Ministry approved educational institution and have passed a credit check may be eligible for loan funding. Loans are interest-free while the student is studying full-time. Part-time Canada Student Loans

The federal government also provides Canada Student Loans for eligible part-time students demonstrating financial need, who are enrolled in 20-59% of a full course load (students with permanent disabilities may enrol in 20-39% of a full course load) per term in courses leading to a degree, diploma or certificate in an approved program at a Ministry approved educational institution. Part-time Canada Student Loans assist with a student’s allowable costs for tuition, books, transportation, day care and incidentals and are interest-bearing after 30 days. Repayment responsibilities begin within 30 days of negotiating the loan.

Canada Study Grants

Canada Study Grants are available to high needs part-time students who are studying part-time for very specific reasons (inability to attend full-time). Students submitting part-time loan applications will be assessed for grant eligibility.

Canada Access Grants/Millennium Ontario Access Grants

The Canada Access Grants for Low-Income Families and the Millennium Ontario Access Grants assist eligible first-time first-year students from low-income families with their tuition costs to a maximum of $3000. The Canada Access Grant for students with Permanent Disabilities replaces the first $2000 of eligible federal loan funding with non-repayable grant funding for students who self-identify and provide proof that they have a permanent disability. The Ontario Access Grants assist eligible second-year students from low-income families with their tuition costs to a maximum of $3000. These grants do not have to be repaid. See detailed eligibility requirements at http://osap.gov.on.ca.

Ontario Special Bursary Plan

This plan helps students who demonstrate exceptional levels of financial need who are unable to attend school full-time. Bursaries are available to eligible part-time students enrolled in approved programs at recognized post-secondary institutions in Ontario only. Students must be working towards their first post-secondary degree, diploma or certificate. This bursary does not require repayment.

Ontario Work-Study

The Work-Study Program provides part-time jobs during the school year to students who demonstrate financial need to help them meet their education-related costs. It also helps students who lack the resources expected under OSAP or who have an assessed need under OSAP which is not met because of loan maximums or who do not wish to borrow further due to high debt load. Costs of this plan are shared by the provincial government and McMaster University.

Child Care Bursary

This plan is intended to assist students with disabilities, who demonstrate financial need, to meet disability-related costs related to their participation in post-secondary education. A single application is used to be considered for this funding. For more information, contact the Centre for Student Development at http://cad.mcmaster.ca.

Canada Study Grants

Canada Study Grants are funded by the federal government and administered by the provincial government, through the Ontario Student Assistance Program (OSAP). Policies regarding eligibility and amounts are established by the federal government and procedures on how to apply are established by the province of Ontario:

• Canada Study Grants include the following:
  • Canada Study Grant for Students with Dependents
  • Canada Study Grant for High-Need Part-time Students
  • Canada Study Grant for Women in Doctoral Studies

All Canada Study Grants are non-repayable.

Queen Elizabeth II (Aiming for the Top) Scholarship

The Queen Elizabeth II (Aiming for the Top) Scholarship is designed to recognize students who have shown academic excellence at the high school level and to assist students with financial need. The value of the scholarship varies between $100 and $3,500 per academic year. You may be considered for a Queen Elizabeth II (Aiming for the Top) Scholarship if you:

• attend an Ontario high school in 2006/2007 and achieve academic excellence;
• are an Ontario resident (as defined by OSAP);
• apply to attend an Ontario university through the Ontario Universities’ Application Centre, or a college of applied arts and technology through the Ontario College Application Service, or apply to attend another Ontario post-secondary institution (e.g. a private career college) that is approved for the purposes of this scholarship;
• will be a full-time post-secondary student in the 2007/2008 academic year; and
• meet all other application requirements/deadlines.
Millennium Bursary
The Canada Millennium Scholarship Foundation Bursary is available for full-time students who have the highest assessed need, as determined by the Province of Ontario, and who meet all of the program's eligibility requirements. Details on the eligibility requirements are available on the Canada Millennium Scholarship Foundation web site at http://www.millenniumscholarships.ca. The value of the bursary is $3,000. The Millennium Bursary does not require repayment.

McMASTER SUMMER WORK PROGRAMS
McMaster Summer Work Programs offer part-time and full-time summer jobs to students demonstrating financial need to help them to meet costs not recognized under regular federal and provincial financial aid programs. In particular, these programs are intended to assist students who lack resources relative to their assessed financial need and those who do not wish to borrow further due to a high debt load.

THE R. ROSS CRAIG MEMORIAL FUND WORK PROGRAM
Established in 1997 in memory of R. Ross Craig. A variable number of employment opportunities made available to students in any program who demonstrate financial need. Preference will be given to students in disciplines related to the fields of Health Sciences and Engineering. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90761)

THE HAMILTON FAMILY FOUNDATION WORK PROGRAM
Established in 1998 by the Hamilton Family Foundation. A variable number of employment opportunities made available to students in any program who demonstrate financial need. Preference will be given to students in disciplines related to the fields of Health Sciences and Engineering. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90736)

THE SALLY HORSFALL WORK PROGRAM
Established in 1996, the Centre for Studies of Children at Risk, McMaster University has a variable number of employment opportunities made available to students demonstrating financial need. These jobs will provide an opportunity for students to pursue research and/or assist with activities sponsored by the Centre. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90656)

THE HUMANITIES COMMUNICATIONS CENTRE WORK ENDOWMENT
Established in 1997 by Edward and Margaret Lyons, McMaster alumni of the Class of ’49 and later augmented by friends of The Edward and Margaret Lyons Humanities Communications Centre. A variable number of employment opportunities will be made available to students in any program who demonstrate financial need. Preference will be given to students in Humanities and Social Sciences. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90656)

THE McMaster “McWORK” PROGRAM
Established in 1996 by the University with the goal of creating meaningful employment opportunities for current students who demonstrate financial need. To be eligible for consideration, students must be approved for the Summer Work Program through the Office of Student Financial Aid & Scholarships. (90656)

EMERGENCY FUNDING
EMERGENCY LOANS
Assistance in the form of short-term emergency loans is sometimes available to graduate or undergraduate students. Such loans cannot be given to pay tuition, bookstore, residence or other university expenses. Repayment of any loan is expected within 90 days or before the end of the student's study period. Students requesting a short-term loan must meet with a representative from the Office of Student Financial Aid & Scholarships to complete an application.

A number of funds exist to provide assistance to students in financial need.

THE UNIVERSITY LOAN FUNDS
Small short-term emergency loans from the University funds are available to assist students in any program. These funds have been supported through contributions from a number of local Chapters, Imperial Order Daughters of the Empire, including the Emma Frances Pratt, Princess Marina and Sovereign Chapters.

THE IVOR WYNNE MEMORIAL LOAN FUND
Established in 1971 in memory of Ivor Wynne, Dean of Students. To assist students in any program.

EMERGENCY BURSARIES
Assistance in the form of emergency bursaries is sometimes available to students who have dire need. Students with extreme circumstances must meet with a representative from the Office of Student Financial Aid & Scholarships to discuss their situation.

BURSARIES
Bursaries are granted on the basis of demonstrated financial need according to the principles of the Province of Ontario’s Student Access Guarantee. They are intended to supplement a student’s own financial contribution, parental assistance, government aid and personal loans/lines of credit to help the student to complete the academic year.

Application procedures and deadlines are available from the Office of Student Financial Aid & Scholarships, Gilmour Hall, Room 120 or on our web site at http://sfas.mcmaster.ca. Any government-sponsored student loan applicant who is registered as a student of McMaster University is eligible to apply.

Bursaries are listed in alphabetical order.

Legend

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THE 4 WINDS BURSARIES (U)
Established in 1997 by John F. Evans, O.C. and Patricia Peacock-Evans in recognition of John’s long-standing association with McMaster as Chair of The President’s Club Executive Committee. The Bursary is named after the island where the family’s cottage is located. A variable number of bursaries to be granted to students who demonstrate financial need. (90708)

THE AINSWORTH BURSARIES (U)
Established in 1996. To be granted to undergraduate students in any program who demonstrate financial need. Preference is given to female students. (90578)

THE PHYLLIS MAY AITKEN BURSARY FUND (U)
Established in 1997 by the bequest of Phyllis May Aitken. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90653)

THE JAMES N. ALLAN FOUNDATION BURSARY (R)
Established in 1996 from funds donated by the James N. Allan Foundation, Dunnville, Ontario, in support of its belief that all students should have the opportunity to achieve their educational goals. To provide assistance to McMaster students who demonstrate financial need. Preference will be given to students from Haldimand Norfolk County. (90803)

THE GARY ALLEN MEMORIAL BURSARY (B)
Established in 1997 by friends and family of the late Gary Allen (Class of ’84) and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative, to assist a Commerce student in Year III or IV whose major area of study is accounting and who demonstrates financial need. Preference will be given to a mature student. (90601)

THE ROSE (NÉE D’ALESSIO) AND PAUL ALLISON BURSARY (E)
Established in 2004 by Rose (née D’Alelio) Allison, B. Eng. (Class of ’81) and Paul Allison, B. Eng. Mgt. (Class of ’80) and M.B.A. (Class of ’81) in support of their belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (91023)
THE AMEX CANADA BURSARY (U)
Established in 1997 by AMEX Canada Inc. in support of their belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90805)

THE ANCASTER LIONS CLUB BURSARY (R)
Established in 1997 by the Ancaster Lions Club under the McMaster Student Opportunity Fund initiative and to exemplify the Lions international objective to take an active interest in the civic, cultural, social and moral welfare of the community. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to students currently residing in the town of Ancaster. (90804)

THE ANDREW FOUNDATION BURSARIES (E)
Established in 1997 by the Andrew Foundation under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in a program in Engineering who demonstrate financial need. Preference to be given to students who are studying Electrical Engineering or Mechanical Engineering. (90805)

THE ANTHROPOLOGY BURSARY (SS)
Established in 1996 by faculty, alumni and other friends of the Department of Anthropology. To be granted to students who have completed Level II of a program in Anthropology and who demonstrate financial need. Preference will be given to students entering Level III. (90579)

THE JENNIFER AND THEODORE ARCAND ENGLISH BURSARY (H)
Established in 1997 by Theodore Arcand (Class of ’57), in memory of his wife, Jennifer (Class of ’57), whose interest was French speaking. To be granted to an undergraduate or graduate student enrolled in a program in English, who demonstrates financial need. (90807)

THE FRED AND JEAN ARMER BURSARY (SS)
Established in 2006 by Jean Armer in memory of her husband Frederick B. Armer, B.A. (Class of ’75) and in support of her belief that all students should be able to pursue their educational goals. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. Preference will be given to students enrolled in Level II or Level III of a program in Anthropology. (91044)

THE A.H. ATKINSON BURSARIES (E)
Established in 1989 by the A.H. Atkinson Education Fund Inc. of Hamilton and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be awarded to undergraduate students in a full-time program in Engineering who demonstrate financial need. (90500)

THE ATKINSON CHARITABLE FOUNDATION BURSARY (SS)
Established in 1996 by The Atkinson Charitable Foundation. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. Preference to be given to the recipient of The Atkinson Charitable Foundation Award. (90895)

THE AUBURN INDUSTRIAL SERVICES LTD BURSARY (U)
Established in 1997 by Auburn Industries Services Ltd. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Auburn Industrial Services Ltd. Award. (90897)

THE JOY BÁBY BURSARY (U)
Established in 1997 by Joy Báby under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a program who demonstrates financial need. (90809)

THE BACHELOR OF HEALTH SCIENCES (HONOURS) BURSARY (HS)
Established in 2004 by the Bachelor of Health Sciences (Honours) Program in the Faculty of Health Sciences through the generosity of its alumni and friends. To be granted to a student in the Bachelor of Health Sciences (Honours) program who demonstrates financial need. (90895)

THE CHARLES MURRAY BALL BURSARIES (U)
Established in 1993 by bequest of May Alexandra Ball in memory of her brother Charles Murray Ball. To assist students in any program which demonstrate financial need. (90550)

THE BARTEK BURSARIES (E)
Established in 1996 by Bartek Ingredients Inc. of Stoney Creek in support of McMaster students. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. Preference to be given to students currently on the Deans’ Honour List. (90872)

THE BIRGIT AND ROBERT BATEMAN BURSARY (AS, S, SS)
Established in 1997 by Birgit and Robert Bateman under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Arts and Science program, the Faculty of Social Sciences or the Faculty of Science. Preference to be given to students who are studying Environmental Studies or Environmental Science. (90810)

THE HELEN AND MORRIS BAUGHMAN BURSARY (S)
Established in 2005 by Marvin Ryder in honour of Helen and Morris Baughman. To be granted to students enrolled in the Faculty of Science who demonstrate financial need. Preference will be given to students in Level III or IV of a Biology program. (91025)

THE ESTELLE AND CHUB BAXTER BURSARY (HS)
Established in 2003 by Estelle and Chub Baxter under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in an Art History program in the School of the Arts. (90991)

THE BEALE-LINCOLN-HALL EXCHANGE PROGRAM BURSARIES (EX)
Established in 1996 by Arnold A. Beale in memory of his parents, F. Arnold Beale and Margaret S. Beale and Mr. and Mrs. Walter Gould Lincoln and Commander Harley H. Hall, U.S.N. To be granted to a student who demonstrates financial need and is enrolled in a program in Commerce, Biochemistry, Biology, English, Chemistry, Earth Sciences, History, Materials Science, Mathematics, Physics, Engineering Physics or Religious Studies who is participating in one of McMaster’s formal exchange programs. Preference will be given to students who have demonstrated a lively interest in the humanities and the human and social implications of scientific developments. (90677)

THE MARJORIE E. (WATSON) BEATTIE BURSARY (H)
Established in 1997 by William V. Beattie (Class of ’58) in honour of his mother, Marjorie E. (Watson) Beattie (Class of ’33), under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference will be given to students enrolled in the Faculty of Humanities. (90811)

THE DR. C. HOWARD AND DR. SHIRLEY F. BENTALL BURSARIES (U)
Established in 1999 by Dr. C. Howard Bentall (Class of ’37) and Dr. Shirley F. Bentall (Class of ’46) under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90855)

THE NORMA BERTI BURSARY (SS)
Established in 1996 under the McMaster Student Opportunity Fund initiative by Norma Berti, active Stelco employee for 34 years and recognized by the Hamilton Council of Women as Women of the Year for her charitable contributions. To be granted to a student who demonstrates financial need and is enrolled in a program in Labour Studies. (90812)

THE BETZNER FAMILY MEMORIAL BURSARIES (U)
Established in 1996 by the Betzner Family of Dundas, Ontario. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90580)

THE BIRKS FAMILY FOUNDATION BURSARY (U)
Established in 1987 by The Birks Family Foundation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students annually who demonstrate financial need. (90960)

THE SIDNEY L. BLUM BURSARY (SS)
Established in 1989 by friends and associates in memory of Sidney L. Blum. To be granted to one undergraduate and one graduate student enrolled in a program in Social Work who demonstrate financial need. Preference will be given to the undergraduate students registered in the summer term in SOC WORK 3D06. (90506)

THE SYLVIA BOWERBANK MEMORIAL BURSARY (H)
Established in 2005 by family and friends in memory of Dr. Sylvia Bowerbank. To be granted to female students enrolled in the Department of English and Cultural Studies who demonstrate financial need. Preference will be given to female students who reside in a native community in Canada. (91059)

THE BOWES FAMILY BURSARIES (U)
Established in 1995 by Eleanor and Terrence Aurini of Cambridge. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to female students. (90561)
THE BRANTFORD ALUMNI BRANCH Bursary (U)
Established in 2000 by the Brantford Alumni Branch of the McMaster Alumni Association under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Brantford Alumni Branch Award. (90969)

THE LOUISE BRAYFORD MEMORIAL Bursary (AS)
Established in 1996 by Mrs. Janet Leenaars in memory of her late mother, Mrs. Louise Brayford of Brantford, Ontario in Class of '34. To be granted to a student enrolled in the Arts and Science Program who demonstrates financial need. Preference will be given to a student enrolled in a course in Mathematics. (90839)

THE ERIC JOHN BRETZLER Bursary (CS)
Established in 1997 by family and friends in memory of Eric John Breitzler (Class of '92). To be granted to a student enrolled in any program who demonstrates financial need. Preference will be given to students associated with the McMaster Students Union. (90814)

THE WILLIAM DAVID BROADHEAD MEMORIAL Bursary (H)
Established in 2003 by family in memory of William David Broadhead (Class of '39) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a program in the Department of English and Cultural Studies. (90992)

THE DOUGLAS IAN BROWN Bursary (HS)
Established in 1997 by Douglas A. and Lois Alleen Brown in honour of their son Douglas Ian Brown in Class of '76. To be granted to a McMaster student enrolled in the Faculty of Health Sciences who demonstrates financial need. (90815)

THE DR. RICHARD A. BRYMER MEMORIAL Bursary (SS)
Established in 1998, under the McMaster Student Opportunity Fund initiative, by Mrs. Isabelle Brymer in memory of her husband, Dr. Richard Brymer, who served as a faculty member in the Department of Sociology at McMaster University from 1955 to 1996. To be granted to a student enrolled in a program in Sociology or Anthropology who demonstrates financial need. (90845)

THE ED BUFFETT Bursary (HS)
Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in a program in Health Sciences who demonstrate financial need. Preference will be given to students who have demonstrated leadership in their school and community. (90816)

THE JODIE ANNE BULL MEMORIAL Bursaries (SS)
Established in 1996 by her family in memory of Jodie Anne Bull. A variable number of bursaries to be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. At least one bursary will be granted to a student enrolled in Labour Studies. (90732)

Bursaries for In-Course Visa Students (U)
Established in 1982 by the University to assist visa students in any program. (90547)

Bursaries for Visa Students (U)
Established in 1999. A variable number of bursaries to be granted to visa students in any program who demonstrate financial need. (90933)

THE MARIE IRELAND BUSH MEMORIAL Bursaries (H)
Established in 1996 by Helen Ireland Caldwell in memory of Marie Ireland Bush, Class of '46 and dedicated teacher who instilled in her students a love of learning. A variable number of bursaries to be granted to students enrolled in a program in English who demonstrate financial need. (90563)

THE BUSINESS MANAGEMENT SERVICES Bursaries (U)
Established in 1996 by Staff of McMaster's Business Management Services who through their leadership, guidance and support, enable the University community to deploy its financial resources to the greatest advantage. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90584)

THE HELEN CALDWELL Bursary (H)
Established in 1996 by Helen Caldwell, (Class of '42, Faculty of Humanities.) To be granted to a student enrolled in Level III or IV of the Women's Studies Program who demonstrates financial need. (90540)

THE JAMES CALVIN Bursaries (U)
Established in 1997 by bequest of James Calvin. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90831)

THE CAMICO Bursaries (U)
Established in 1997 by Camico Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90817)

THE BETTY TAYLOR CAMPBELL Bursaries (U)
Established in 1998 by William F. Campbell of Ottawa, Ontario in memory of his wife Betty Taylor Campbell a 1937 McMaster graduate, an Olympic medallist in 1936 and a 1990 inductee to the Athletics Hall of Fame. To be granted to students who demonstrate financial need. Preference will be given to the recipient of the Betty Taylor Campbell Scholarship. (90832)

THE CANADA DIRECT SALES DIVISION Bursary (E, S, SS)
Established in 1997 by Canon Canada Inc.- OE Division, and augmented by the University to assist visa students in any program who demonstrate financial need. Preference will be granted annually to McMaster students who demonstrate financial need and are enrolled in an Earth and Environmental Sciences program, the Honours Geography and Environmental Studies program or an Engineering and Society program. (90820)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (BURLINGTON) ELEANOR EWING Bursary (U)
Established in 1997 by the Canadian Federation of University Women (Burlington) under the McMaster Student Opportunity Fund initiative, in honour of Eleanor Ewing, who was instrumental in establishing the Burlington Chapter of the Canadian Federation of University Women. To be granted to a full-time student in any program who demonstrates financial need. Preference to be given to a mature female student. (90704)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) Bursary (U)
Established in 1997 by the Canadian Federation of University Women (Hamilton) in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need and are enrolled in an Earth and Environmental Sciences program, the Honours Geography and Environmental Studies program or an Engineering and Society program. (90820)

THE CANADIAN SOCIETY FOR MECHANICAL ENGINEERING Bursary (E)
Established in 1997 by The Canadian Society for Mechanical Engineering in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference will be given to a student enrolled in Mechanical Engineering. (90819)

THE ELEANOR TURNER CARMENT Bursary (SS)
Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need. Preference will be given to a student enrolled in a program in Women's Studies. (90834)

THE ELVA CARROLL Bursary (AT)
Established in 1996 by Elva Carroll under the McMaster Student Opportunity Fund initiative. To be awarded to a female athlete who participates on an inter-university team and demonstrates financial need. Preference will be given to the recipient of The Elva Carroll Award. (90999)

THE MATT CASEY Bursary (E)
Established in 1997 by Mr. Matthias Casey (Class of '83) under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Business. Preference will be given to students enrolled in the M.B.A. program in the Finance stream. (90681)

THE NORMAN NATHANIEL CASKEY Bursaries (H)
Established in 1996 by June Caskey of Hamilton in memory of her father. A variable number of bursaries to be granted to students enrolled in a program in Music who demonstrate financial need. (90585)

THE CHAN YIN CHAK Bursary (EX)
Established in 1997 by Tak Chan in honour of his great grandfather, Mr. Chan Yin Chak. This bursary will be used to help defray expenses of Level III Commerce students or M.B.A. students, who demonstrate financial need, and are participating in one of the international exchange programs at the DeGroote School of Business. (90662)

THE ANNE AND HAROLD CHALK MEMORIAL Bursaries (U)
Established by bequest of Anne Maria Luise Chalk and Harold Henry Chalk of Ottawa. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90586)

THE CHAWKERS FOUNDATION Bursaries (U)
Established in 1997 by The Chawkers Foundation, Ottawa, Ontario in support of its belief that all students should have the opportunity to pursue their educational goals. To provide assistance to students who demonstrate financial need. Value: $1,800 (90587)

THE CIBC Bursaries (U)
Established in 1997 by the Canadian Imperial Bank of Commerce under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90903)
THE SAM M. CINO BURSARY (U)
Established in 1997 by Sam Cino in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90684)

THE CITY OF HAMILTON BURSARIES (R)
Established in 1959 by the City of Hamilton to commemorate the visit of Her Majesty Queen Elizabeth II and His Royal Highness Prince Philip to Hamilton in July 1959. To assist Hamilton students who demonstrate financial need. (9015)

THE DAVID CLARK BURSARIES (B)
Established in 1996 by David L. Clark and Marilyn D. Eustace. A variable number of bursaries to be granted to students enrolled in a program in Commerce who demonstrate financial need. Preference to be given to students demonstrating interest in Asian Studies. (90538)

THE HUGH CLARK BURSARIES (U)
Established in 1997 by Hugh Clark in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of the Hugh Clark Scholarship. (90865)

THE CLASS OF '35 BURSARIES (U)
Established in 1985 by the Year '35 in honour of their 50th class reunion and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund Initiative. To be awarded to a student in good academic standing who is a Canadian citizen or permanent resident. (90507)

THE CLASS OF '46 BURSARIES (SS)
Established by the Year '46 in honour of their 40th class reunion. To be granted to a student in a program in Gerontology. (90281)

THE CLASS OF '46 GOLDEN ANNIVERSARY BURSARIES (U)
Established by the Year '46 in honour of their fiftieth reunion on June 1, 1996. A variable number of bursaries to be granted to students enrolled in any program at McMaster who demonstrate financial need and are in good academic standing. (90564)

THE CLASS OF '47 GOLDEN ANNIVERSARY BURSARIES (U)
Established in 1997 by the Class of '47 in honour of their 50th Anniversary Reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90560)

THE CLASS OF '49 GOLDEN ANNIVERSARY BURSARIES (U)
Established by the Class of '49 in honour of their 50th Anniversary Reunion in 1999. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90591)

THE CLASS OF '51 GOLDEN ANNIVERSARY BURSARIES (U)
Established by the Class of '51 in honour of their 50th Anniversary Reunion in 2001. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90666)

THE CLASS OF '57 BURSARIES (U)
Established in 1997 by the Class of '57 in honour of their 40th Anniversary Reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90887)

THE CLASS OF '59, 50TH ANNIVERSARY BURSARY (U)
Established by the Class of '59 in honour of their 50th Anniversary. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (91021)

THE CLASS OF 1960 GOLDEN ANNIVERSARY BURSARIES (U)
Established by the Class of 1960 in honour of its 50th reunion. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90942)

THE JANET HOLDER AND NEAL COCKSHUTT BURSARY (R, U)
Established in 2004 by Janet Holder, M.B.A. (Class of '83) and Neal Cockshutt in honour of Ignatius Cockshutt, founder of Cockshutt Farm Equipment Co. Ltd. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students from Brant County. (91020)

THE DORIS PARTRIDGE COLE BURSARY (U)
Established in 1881, this bursary is to be granted to a worthy student in memory of Doris Partridge Cole (Class of '45). (90590)

THE DOUGLAS AND BEVERLY COLEMAN BURSARY (S)
Established in 2005 by Douglas and Beverly Coleman, both of Class of '64. To be granted to students enrolled in the Department of Biochemistry and Biomedical Sciences in the Faculty of Science who demonstrate financial need. (90143)

COMMUNITY NURSING REGISTRY - HAMILTON BURSARIES (HS)
Established in 2000 by the Community Nursing Registry - Hamilton in support of students pursuing a professional career in nursing. A variable number of bursaries to be granted to students enrolled in Level II in the School of Nursing in the Faculty of Health Sciences who demonstrate financial need. Preference will be given to students who demonstrate volunteer service in the area of health care. (9043)

THE COMPUSMART BURSARIES FUND (E, S)
Established in 1997 by JMG Compusmart in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted annually to students who demonstrate financial need. Preference will be given to McMaster students enrolled in a program in Computer Science or Computer Engineering. (90741)

THE CONNOR, CLARK & LUNN BURSARY (U)
Established in 1996 by Connor, Clark & Lunn in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a McMaster student in any program who demonstrates financial need. (90665)

THE GERALDINE LORETTA COSFORD BURSARIES (H)
Established in 1997 by Geraldine Loretta Cosford under the McMaster Student Opportunity Fund Initiative. A variable number to be granted to students enrolled in English or History. Preference to be given to students who have completed Level II. (90692)

THE IAN AND JILL COWAN BURSARY (U)
Established in 1997 by Ian Cowan (Class of '71) and Jill (nee Robinson) Cowan (Class of '74) in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90693)

THE SUZANNE E. CRAVEN BURSARY (H)
Established in 1997 by Mrs. Suzanne Craven in support of McMaster students. To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (90694)

THE INNOVATIVE COMMUNICATIONS BURSARY (SS)
Established in 2005 by Natalie Muryn (Class of '80) under the McMaster Student Opportunity Fund Initiative. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (90666)

THE CROSS COUNTRY BURSARY (AT, R)
Established in 1997 by coaches, former team members and supporters of the Men's and Women's Varsity Cross Country running teams under the McMaster Student Opportunity Fund Initiative. To be granted to a student who demonstrates financial need and who is a member of the varsity men's or women's cross country team. (90695)

THE ARCHIBALD R. CROZIER BURSARIES (CS)
Established in 1992 in memory of Archibald (Archie) Crozier (Class of '35), former professional football player and Chair of the Ontario Energy Board for 17 years. To be granted to a student who has demonstrated financial need and a sense of social awareness and shown interest in, and concern for, others. It is hoped that recipients, after graduation, will reimburse the fund to the extent of their award so that increasing numbers of students may be assisted. (90656)

THE CRS ROBOTICS CORPORATION BURSARIES (E)
Established in 1997 by CRS Robotics Corporation Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90666)

THE MRS. MARGARET CUDMORE BURSARY (SS)
Established in 2005 under the Ontario Trust for Student Support initiative. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need and a sense of social awareness and shown interest in, and concern for, others. It is hoped that recipients, after graduation, will reimburse the fund to the extent of their award so that increasing numbers of students may be assisted. (90666)

THE THOMAS DAILY BURSARIES (U)
Established in 1996 by family, friends and colleagues of Thomas Daly. A variable number of bursaries to be granted to students in any undergraduate program who demonstrate financial need. (90508)

THE EAL FRANKLIN DAMUDE BURSARY (H)
Established in 1993 by Dr. Christa Saas, in memory of Earl Franklin Damude (Class of '38). To be granted to a student who demonstrates financial need and has completed Level II of a program in English or History. (90570)
THE SAM DARRAGH GENERAL ATHLETIC BURSARY (AT)
Established in 1997 by friends of Sam Darragh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any academic program who demonstrates financial need and who is a member of any inter university team at McMaster. (90697)

THE SAM DARRAGH MEMORIAL BURSARY (AT)
Established in 1997 by friends of Sam Darragh under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need and who has demonstrated outstanding athletic achievement in inter varsity football. (90627)

THE DARVILLE BURSARIES (H)
Established in 2004 by Jack S. Darville (Class of ’68) under the McMaster Student Opportunity Fund II Initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a music or art program in the School of the Arts. (90687)

THE DAUGHTERS OF THE EMPIRE CLUB, HAMILTON LTD. BURSARIES (B)
Established in 1996 in honour of The Daughters of the Empire Club, Hamilton, Limited (1911-1996) in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students in financial need. Preference will be given to a student who is a Canadian citizen or permanent resident and who exhibits financial need. Established in 1996 by the partners of Evans, Philp in support of McMaster students who demonstrate financial need. To be granted to a student enrolled in a program which includes Gerontology as a major, who is a member of any inter university team at McMaster. (90697)

THE EDWARD FRANK DAVIS MEMORIAL BURSARIES (U)
Established in 1996 by bequest in memory of Edward Frank Davis under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in Level I who demonstrate financial need and a commitment to community involvement. (90900)

THE GORDON H. DEAN BURSARIES (AS, H)
Established in 1996 by Gordon H. Dean of Stoney Creek. To be granted to a student who demonstrates financial need. Preference will be given to a student enrolled in Level II of a program in Arts or Science or Level III of a program in the Faculty of Humanities. (90584)

THE JOHN DEERE BURSARIES (U)
Established in 1997 by John Deere in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. (90698)

THE DeGROOTE SCHOOL OF BUSINESS
BUSINESS ADVISORY COUNCIL BURSARY (B)
Established in 1997 by the DeGroote School of Business Business Advisory Council under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Business I or in the first year of the M.B.A. program at the DeGroote School of Business. (90699)

THE DEBORAH AND TERENCE DEMPSEY BURSARIES (U)
Established in 2005 under the Ontario Trust for Student Support program. To provide assistance to McMaster students in financial need. Preference will be given to students from Nova Scotia. (90699)

THE BEN F. DESROCHES BURSARIES (SS)
Established in 1996 as a tribute to Ben F. Desroches, Stelco employee from 1949 to 1966 and elected Municipal Councillor for Saltfleet and Stoney Creek from 1969 to 1978, in recognition of his outstanding contributions to labour and to men and women in the greater Hamilton area. A variable number of bursaries to be granted to students enrolled in a program in Labour Studies who demonstrate financial need. The value of this award shall be not less than $300. (90695)

THE DETENBECK FAMILY BURSARIES (U)
Established in 2005 by bequest of Patricia Detenbeck (Class of ’32). To be granted to students enrolled in any program who demonstrate financial need. (91049)

THE WILLIAM A. DETENBECK BURSARIES (R)
Established in 1996 by William Detenbeck in honour of the Detenbeck Family. A variable number of bursaries to be granted to students who demonstrate that they are residents of an Aboriginal community in Canada and who demonstrate financial need. (90301)

PATRICIA ANNE DICICCO MEMORIAL BURSARY (SS)
Established in 1988 this bursary is to be granted to a student or students enrolled in a program which includes Gerontology as a major, who is a Canadian citizen or permanent resident and who exhibits financial need. (9057)

THE MARGERY E. DIXON MEMORIAL BURSARY (H)
Established in 2003 in loving memory of Margery E. Dixon (Class of ’35) by Geraldine Phelix under the McMaster Student Opportunity Fund II initiative. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in a program in the Department of English and Cultural Studies. (90694)

THE DOFASCO INC. BURSARIES (U)
Established in 1996 by Hamilton-based Dofasco Inc., one of Canada’s and North America’s leading steelmakers in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90598)

THE JEAN, MARTHA AND LAURIE DOUDET MEMORIAL BURSARIES (HS)
Established in 1998 by the family in memory of Jean, Martha and Laurie Douzet for their years of service and commitment to the nursing profession. A variable number of bursaries to be granted to students enrolled in the School of Nursing at both the undergraduate and graduate level and who demonstrate financial need. Preference will be given to students from the Regional Municipality of Niagara. (90651)

THE STEPHEN DULMAGE BURSARY (B)
Established in 2005 by Stephen Dulmage, B.A. (Class of ’54). To be granted to students enrolled in the Bachelor of Commerce program in the DeGroote School of Business who demonstrate financial need. (91048)

THE MARGARET E. DUNCAN BURSARY (SS)
Established in 1998 by Mr. and Mrs. J. Bruce Duncan in honour of his late mother who was a long-term volunteer in McMaster’s Gerontology Program as a Tutor and, subsequently, a Senior Class Assistant. A variable number of bursaries to be granted annually to students enrolled in a Gerontology course who demonstrate financial need. (90846)

THE DUNDAS BURSARIES (R)
Established in 1996 from funds donated anonymously for the purpose of providing students with an opportunity to achieve their educational goals. To provide assistance to McMaster students in financial need. Preference will be given to students from the Dundas area. (90599)

THE ALAN AND CLAIRE EATOCK BURSARIES (H)
Established in 1999 by Alan Eaton (Class of ’47) and Claire Eatock under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. (90659)

THE CYRUS EATON FOUNDATION BURSARY (R)
Established in 2000 by the Cyrus Eaton Foundation of Cleveland, Ohio, in support of McMaster students. To be granted to a student in any program who demonstrates financial need. Preference will be given to students from Nova Scotia. (90644)

THE GEORGE AND MARGARET EDRUP BURSARY (B, S)
Established in 1997 by Margaret Edrup in honour of her parents George and Margaret Edrup under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in either the Faculty of Business or the Computer Science program in the Faculty of Science. (90701)

THE ENERSYSTEM INSULATION LTD. BURSARY (H)
Established in 1997 by EnerSystem Insulation Ltd. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in a program in French who demonstrates financial need. (90702)

THE ENGINEERING CLASS OF ’97 LEGACY BURSARY (E)
Established in 1997 by the graduating class in Engineering under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. (90668)

THE ENGINEERING AND SOCIETY TRAVEL BURSARY (T)
Established in 1994 by the Department of Engineering and Society. To assist students with travel costs associated with their summer placement in the Engineering and Society program. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Engineering. Applications will be reviewed by the Director, Engineering and Society and the Office of Student Financial Aid & Scholarships. (90963)

THE EVANS, PHILIP BURSARIES (U)
Established in 1996 by the partners of Evans, Philip in support of McMaster students. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90671)
THE FACULTY OF BUSINESS BURSARIES (B)
Established in 1997 under the McMaster Student Opportunity Fund initiative with proceeds from the Fundraising Auction held at Vineland Estates Winery Ltd. To be granted to students enrolled in the Faculty of Business who demonstrate financial need. (90705)

THE EILEEN GRAY FARLEY BURSARY (U)
Established in 1998 by Eileen Gray Farley (Class of ’43) and winner of the D.E. Thompson Scholarship in grateful memory of Mr. D.E. Thompson who established the D.E. Thompson Scholarship of 1909. To be granted to students in any program who demonstrate financial need. (90833)

THE DONALD A. FEATHER BURSARY (U)
Established in 2003 by family in honour of Donald A. Feather, B.A. (Class of ’64) under the McMaster Student Opportunity Fund II initiative in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to a student in any Faculty who demonstrates financial need. (91010)

THE MARGO AND FRASER FELL BURSARIES (HS)
Established in 1999 by Margot (Class of ’52) and Fraser Fell (Class of ’49). A variable number of bursaries to be granted to students enrolled in the School of Nursing in the Faculty of Health Sciences who demonstrate financial need. (90945)

THE EDITH E. FERRIE BURSARIES (U)
Established in 1965 by the late Edith E. Ferrie. To be granted to students in any program who demonstrate financial need. (90511)

THE FESTITALIA CORPORATION BURSARY (H)
Established in 1997 by the Festitalia Corporation under the McMaster Student Opportunity Fund initiative. To be granted, in alternating years, to a student who demonstrates financial need and is enrolled in the Department of Linguistics and Languages, specializing in Italian, or is enrolled in the School of the Arts. (90706)

THE FINANCIAL EXECUTIVES INSTITUTE BURSARY (B)
Established in 1997 by the Hamilton Chapter of the Financial Executives Institute in support of its belief that all students should have the opportunity to achieve their educational goals. To be granted to a student enrolled in Level II of the Commerce program who demonstrates financial need, has attained a minimum CA of 6.0 and who plans to major in Accounting and/or Finance. The bursary is renewable for up to two additional years on condition that the student continues to demonstrate financial need and maintains a minimum CA of 6.0 in the Commerce program. (90809)

FIRSTONTARIO CREDIT UNION (R)
Established in 1989 by members in celebration of 50 years of service in the Hamilton area. Two or three bursaries to be granted to students in any program who, from the Regional Municipality of Hamilton-Wentworth, City of Burlington or Town of Haldimand-Norfolk, who have demonstrated financial need. Value: $700 each (90504)

THE W.H. FLEMING BURSARIES (U)
Established in 2005 by bequest of W.H. Fleming. To be granted to graduate or undergraduate students in any program who demonstrate financial need. (91045)

THE FORRESTER/GREGORY BURSARY (U)
Established in 1997 by Shelley Forrester and Douglas Gregory in support of McMaster students. To be granted to a student in any program who demonstrates financial need. (90707)

THE JOHN C. FORSTER BURSARIES (U)
Established by bequest of John Clifton Henry Forster of Windsor, Ont., a variable number of bursaries to be granted to students in any program who demonstrate financial need. (90500)

THE EMMA FOX BURSARIES (U)
Established in 1961 by the Wallingford Hall Committee of which Emma Fox was treasurer from 1918 to 1958. To assist female students in any program. (90512)

THE WAYNE C. FOX BURSARIES (B, H, SS)
Established in 1999 by Wayne C. Fox in support of his belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students who demonstrate financial need and are enrolled in the Faculty of Humanities or the Faculty of Social Sciences or the Commerce program at the DeGroote School of Business. (90857)

THE FREEMAN FAMILY FOUNDATION BURSARY FUND FOR STUDY AT THE HEBREW UNIVERSITY OF JERUSALEM (T)
Established in 1997 under the McMaster Student Opportunity Fund initiative in the belief that all students should have the opportunity to pursue their educational goals. To be granted, on the recommendation of the Religious Studies Selection Committee, to graduate and undergraduate students who demonstrate financial need and have enrolled in session(s) of study at the Hebrew University of Jerusalem. Applicants must have lived in Ontario for 12 consecutive months directly prior to commencing full-time post-secondary studies. Students should contact the Department of Religious Studies. (90818)

THE BILL FULLER BURSARY (SS)
Established in 1995 in commemoration of the 50th anniversary of the historic 1946 Stelco strike by William E. (Bill) Fuller, recognized by the City of Hamilton for his volunteer work which included serving as Vice-President of Labour Community Services of the United Way for six years, member of The Hamilton Community Foundation Board from 1990-96, Chairman of the Finance Committee of the Holy Family Church and Hamilton’s Citizen of the Year in 1991. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students enrolled in a Labour Studies program. (90501)

THE GENERAL CONTRACTORS ASSOCIATION OF HAMILTON BURSARIES (E)
Established in 1997 by the General Contractors Association of Hamilton under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90710)

THE GENERAL ELECTRIC CANADA INC. BURSARY (U)
Established in 1997 by General Electric Canada Inc. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. (90711)

THE GENNUM CORPORATION BURSARIES (E)
Established in 1997 by the Gennum Corporation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students who are enrolled in the Faculty of Engineering and who demonstrate financial need. (90712)

THE GWIN GEORGE UNDERGRADUATE BURSARIES (CS)
Established in 1997 in loving memory of Gwen George by her family and friends under the McMaster Student Opportunity Fund initiative. To be granted to students in any undergraduate program who have demonstrated financial need. Preference to be given to students who have demonstrated leadership and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities. (90713)

THE GEORGE P. GILMOUR MEMORIAL BURSARY (AS)
Established in 1997 by the Class of ’62 in support of McMaster students. To be granted to a student enrolled in the Arts and Science Program who has demonstrated financial need. Preference will be given to the student who wins the George P. Gilmour Memorial Scholarship. (90714)

THE DR. GEORGE P. GILMOUR '21 MEMORIAL BURSARY (U)
Established in 2006 by the families of Marilyn Gilmour-Fisher (Class of ’50) and Gwen Gilmour-Laure (Class of ’54) to honour their father’s achievements as Chancellor of McMaster University from 1941 to 1950 and President and Vice Chancellor from 1950 to 1961. To be granted to students in any Faculty who demonstrate financial need. (91060)

THE ALLEN AND MILLI GOULD FAMILY FOUNDATION BURSARIES (B)
Established in 1997 from funds donated by the Allen and Milli Gould Family Foundation, in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to McMaster students enrolled in the Faculty of Business who demonstrate financial need. Preference to be given to M.B.A. Co-op students. (90716)

THE JAMES EDWARD GRADER MEMORIAL BURSARY (S)
Established in 1994 by his sister. To be granted to a student enrolled in the Faculty of Science specializing in Earth Sciences who demonstrates financial need. (90513)

THE GARY GRAHAM BURSARY (B)
Established in 1997 by Gary Graham under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in Business I, or in the first year of the M.B.A. program at the DeGroote School of Business. (90717)
THE GRAND & TOY BURSARIES (U)  
Established in 1996 by Grand & Toy in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90602)

THE GRAY FAMILY BURSARY (E)  
Established in 1997 by Donald Gray (Class of '70) and Glenn Gray (Class of '73) and Kerry Gray (Class of '77 and '82 (M.B.A.)) under the McMaster Student Opportunity Fund initiative. To be granted to a third year student enrolled in the Engineering and Management program who demonstrates financial need. Preference to be given to students who permanently reside in the Hamilton-Wentworth Region. (90718)

THE LELAND GREGORY BURSARIES (U)  
Established in 1997 by the bequest of Leland Andrew Gregory. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90719)

THE JAMES R. (JAMIE) GREILICH MEMORIAL BURSARY (D)  
Established in 1991 in memory of Jamie Greilich (Class of '89) by the Operating Committee on the Disabled through its Awareness Week Activities. To be granted to a disabled student in any program who demonstrates financial need. Students should have registered with the Centre for Student Development. (90533)

THE GUPTA FAMILY EMERGENCY BURSARY FUND (U)  
Established in 2005 by Kulbushan Gupta and family. To be granted to international students who demonstrate urgent financial need due to exceptional circumstances as determined by the Office of Student Financial Aid & Scholarships. (91041)

THE ASMAHAN HAFEZ MEMORIAL BURSARY (S)  
Established in 1997 by her family in memory of Asmahania Hafez. To be granted to a student enrolled in Level I of the Faculty of Science who demonstrates financial need. (90721)

THE BILL AND HELEN HAUGHT BURSARY (H)  
Established in 2004 by Helen (Class of '49) and Bill Haught under the McMaster Student Opportunity Fund II initiative. To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference to be given to students in Level II or III of a Music program. (90707)

THE HALCYON HOUSE BURSARIES (U)  
Established in 1999 by past residents of Halcyon House under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference to be given to a student in residence at Halcyon House. (90589)

THE HALL FAMILY BURSARY (H)  
Established in 2004 by Frederick A. Hall under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. (91001)

THE HAMILTON ALUMNI BRANCH BURSARIES (R)  
Established in 1997 by the McMaster Alumni Association, Hamilton Branch, in honour of the long-standing accomplishments of the Hamilton Alumni Branch. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students graduating from a high school in the Hamilton-Wentworth Region. (90725)

THE HAMILTON CHAPTER OF THE HUMAN RESOURCES PROFESSIONALS ASSOCIATION BURSARY (B)  
Established in 1999 by the Hamilton Chapter of the Human Resources Professionals Association under the McMaster Student Opportunity Fund initiative. To be granted to a Level III or Level IV Commerce student taking two or more of the Human Resource and Management Area courses who demonstrates financial need. (90860)

THE HAMILTON CITIZENS' MEMORIAL BURSARIES (R)  
Established in 1997 by the Hamilton Citizens' Committee for War Services. Proceeds to be used to assist undergraduate students who are residents of the Hamilton-Wentworth Region. (90516)

HAMILTON COMMUNITY FOUNDATION BURSARIES (R)  
Established in 1995-97 by Hamilton Community Foundation from the income of funds generously donated by citizens of this community, notably the late sisters Genevieve Chapney and Cordelia Ensign, and the late Mr. Ross F. Webb. A variable number of bursaries to be awarded to full-time students, registered in any year of any undergraduate program, who have graduated from publicly-funded secondary schools in Hamilton-Wentworth and who demonstrate financial need. The criteria established for these bursaries are consistent with the intention of the original donors. (90723)

THE HAMILTON AND DISTRICT LABOUR COUNCIL BURSARY (SS)  
Established in 1997 by the Hamilton and District Labour Council under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Labour Studies Program who demonstrates financial need. (90726)

THE HAMILTON FOLLIES INC. (GERITOL FOLLIES) BURSARY (SS)  
Established in 1997 by the Hamilton Follies Inc. (Geritol Follies) under the McMaster Student Opportunity Fund initiative. To be granted to a student who has completed at least 30 units in the Gerontology program. (90722)

THE HAMILTON PERFORMING ARTS BURSARY (H)  
Established in 1997 by the Hamilton Performing Arts Foundation Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students who have completed at least 30 units in a program in the School of the Arts, who has shown service to the community-at-large and who demonstrates financial need. Preference to be given to students who are currently on the Dean's Honours list. (90724)

THE HAMILTON PORCELAINS BURSARY (U)  
Established in 1997 by Hamilton Porcelains Limited in the belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90727)

THE HAMILTON SPECTATOR BURSARY (U)  
Established in 1997 by The Hamilton Spectator in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a McMaster student enrolled in any program who demonstrates financial need. (90728)

THE HAMLIN FAMILY FOUNDATION BURSARY (U)  
Established in 2004 by The Hamlin Family Foundation under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in any program who demonstrate financial need. (91016)

THE MARGARET HARGREAVES BURSARIES (H, SS)  
Established in 1997 by Susan Hargreaves Walker in loving memory of her mother, Margaret Hargreaves. A variable number of bursaries to be granted to Social Sciences and Humanities students who demonstrate financial need. Preference will be given to mature, female students. (90729)

THE HARWOOD BURSARIES (H)  
Established in 1999 by bequest of Dr. William Harwood of Hamilton in memory of his beloved wife Grace and devoted daughter Willa Ruth Laurie (Class of '50). A variable number of bursaries to be granted to students studying Music who demonstrate financial need. Value: Not to exceed $1,000. (90517)

THE M.A. (JACK) HASSAL BURSARY (B)  
Established by the Hamilton and District Chartered Accountants' Discussion Group in 1982 in memory of M.A. (Jack) Hassal. To assist a student in Commerce who is a Canadian citizen or permanent resident of Canada. It is hoped that recipients, after graduation, will reimburse the fund to the extent of their award so that the fund may assist increasing numbers of students. (90516)

THE HATCH ASSOCIATES BURSARY (E)  
Established in 1997 by Hatch Associates in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. (90730)

THE DAMIAN MIGUEL HEADLEY BURSARY (U)  
Established in 1997 by family and friends in memory of Damian Miguel Headley (Class of '89) under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Damian Miguel Headley Award. (90902)

THE J. JACOB AND THELMHEATH MEMORIAL BURSARIES (HS)  
Established in 1965 by Norton Canada Inc. in memory of Jack and Thelma Heath, former employees of the Company, who were tragically killed in a boating accident. The fund provides up to four awards to assist students, with demonstrated financial need, in Level III or IV of the B.Sc.N. program (basic and/or post-diploma stream). (90519)
THE MIKE AND MURIEL HEDDEN BURSARIES (U)
Established in 1996 by Muriel Hedden in memory of her husband, D.M. (Mik) Hedden, former Vice-President (Administration), who faithfully served McMaster for over 25 years. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (9003)

THE RUDY HEINZL BURSARY (U)
Established in 1996 by family, friends and colleagues upon his retirement as Dean of Student Affairs in recognition of 32 years of dedicated service to students and to the McMaster University Community. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Rudy Heinzl Award. (90507)

THE EDWIN W. HILBORN BURSARY (U)
Established in 1965 by bequest of Edwin W. Hilborn. To be granted to a student in any program. (9052)

THE MARY A. HILL BURSARY (R)
Established in 1976 by bequest of Mary A. Hill. To be granted to a female student in any program who demonstrates financial need. Preference to be given to one who has graduated from a secondary school in Hamilton. (9052)

THE LLOYD ANDREW HILLGARTNER BURSARIES (U)
Established in 1997 by bequest of Lloyd Andrew Hillgarter. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (903)

THE HAZEL MAY HINKS BURSARIES (HS)
Established in 1996 by bequest of Hazel May Hinks of Burlington, Ontario. A variable number of bursaries to be granted to students enrolled in a program in Nursing who demonstrate financial need. Preference will be given to students who have graduated from a high school located in the City of Burlington. (9004)

THE JOHANNES MICHAEL HOLMBE MEMORIAL BURSARY (E)
Established in 2004 by bequest of Ruth Anna Holmboe in memory of her husband Johannes Michael Holmboe. To be granted to students enrolled in the Faculty of Business who demonstrate financial need. (91006)

THE WILLIAM NEIL HOTRUM BURSARIES (R, U)
Established in 2004 by Mr. William Neil Hotrum under the McMaster Student Opportunity Trust Fund II initiative in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to students who demonstrate financial need. Preference will be given to (i) students from the Hamilton area and (ii) students from the City of Hamilton. (91013)

THE GENERAL HUMANITIES BURSARY FUND (H)
The General Humanities Bursary Fund, established in 1997 by Humanities alumni, will be granted to undergraduate students at McMaster registered in any Humanities program who demonstrate financial need. (9073)

THE DONALD W. HURD BURSARY (S)
Established in 2006 by Alice Hurd in honour of her husband Donald W. Hurd, M.Sc. (Class of '50). To be granted to students registered in the Earth and Environmental Sciences program in the Faculty of Science who demonstrate financial need. (9105)

THE JULIA HURTIG BURSARY (H)
Established by family and friends of the late Julia Hurtig in 1985. This bursary will be granted to a student entering Level I of the Faculty of Humanities, in good standing, who has made a special contribution to the McMaster community through involvement in University affairs. Preference will be given to a female student. (9052)

THE INGLIS BURSARIES (B, E)
Established in 1996 by Paul F. Inglis of Mississauga. A variable number of bursaries to be granted to students enrolled in a program in Commerce or Engineering Management who demonstrate financial need. Preference will be given to students enrolled in Engineering Management. (9060)

THE INTER-RESIDENCE COUNCIL BURSARY (U)
Established in 1996 by the Inter-Residence Council in support of McMaster students. To be granted to a student in any program who demonstrates financial need. (9060)

INTERNATIONAL SCIENCE AND ENGINEERING FAIR 1995 BURSARY (E, S)
Established in 2005 by the Board of the International Science and Engineering Fair 1995 under the Ontario Trust for Student Support Initiative. A variable number of bursaries to be granted to students enrolled in Level I in the Faculties of Science or Engineering who demonstrate financial need. Preference will be given to students who have participated in local science fairs. (9103)

THE JOHN B. ISBITSTER BURSARY (SS)
Established in 1996 under the McMaster Student Opportunity Fund Initiative, by John B. Isbister of Stoney Creek, valued member of the United Steelworkers of America for 39 years and honoured war veteran by Canada and the navy on four occasions. To be granted to a student enrolled in a program in Labour Studies who demonstrates financial need. (9060)

THE IVEY BURSARY (H)
Established in 1997, under the McMaster Student Opportunity Fund Initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Ivey Scholarship. (9057)

THE IVISON FAMILY BURSARIES (R, U)
Established in 1996 by Donald F. Betty Isbister in support of McMaster students enrolled in any program who demonstrate financial need. Preference will be given to recipients of The William Neil Hotrum Bursary, The Rachel Ann Hurd Tuition Award and Honorary War Veteran Bursary. (9073)

THE CLIFFORD JACKSON MEMORIAL BURSARIES (R)
Established in 1997 by family and friends in memory of Clifford Jackson. A variable number of bursaries to be granted annually to students in any program who demonstrate financial need. Preference will be given to children and grandchildren of employees and retirees of The Hamilton- Wentworth Regional Police. (9073)

THE JADDCO ANDERSON BURSARY (U)
Established in 1997 by Jadddco Anderson Limited in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (9073)

THE MARK JANTZI MEMORIAL BURSARY (B)
Established in 2004 by Paul and Hanne Jantzi under the McMaster Student Opportunity Fund II initiative, in memory of their son Mark Jantzi, an Honours Commerce 2002 graduate who passed away tragically in a car accident at the age of 25. This bursary is in support of the belief that all students should have the opportunity to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the DeGroote School of Business. (91004)

THE JENSEN BURSARY (S)
Established in 1997 by Dr. Doris E.N. Jensen in conjunction with the McMaster Student Opportunity Fund Initiative. To be granted to a student in the Faculty of Science, Level II or higher, who demonstrates financial need. Preference to be given to a student registered in a co-op program in the Faculty of Science. (9070)

THE JOHNS FAMILY BURSARIES (AS)
Established by Martin W. Johns and family. A variable number of bursaries to be granted to students enrolled in the Arts and Science Program who demonstrate financial need. (9066)

THE JAMES A. JOHNSON CLASS OF '97 BURSARIES (SS)
Established by the Economics graduating Class of '97, faculty of the Department of Economics, and friends, under the McMaster Student Opportunity Fund Initiative, in honour of Dr. James A. Johnson, to recognize his nine years as Dean of Social Sciences and his thirty-five years of dedicated service to the Department of Economics and McMaster University. A variable number of bursaries to be granted to students in a degree program in Economics who demonstrate financial need. Preference will be given to the recipient of The James A. Johnson Community Contribution Award. (9074)

THE ANDREW JOHNSTONE MEMORIAL BURSARY (SS)
Established in 2002 by colleagues, family and friends in memory of Andrew Johnstone. To be granted to a Level III student enrolled in the Faculty of Social Sciences who demonstrates financial need. Preference will be given to a student in an Economics program. (9072)

THE JONES-TURNER BURSARY (U)
Established in 1998 by John and Joan Turner. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (9074)
THE DR. RONALD V. JOYCE BURSARIES (U)
Established in 2003 by Dr. Ronald V. Joyce (Class of '98) to support students at McMaster. A variable number of bursaries to be granted to undergraduate students in any program who demonstrate financial need. (90777)

THE JUNIOR LEAGUE OF HAMILTON/BURLINGTON, INC. BURSARIES (U)
Established in 1997 by the Junior League of Hamilton-Burlington, Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Junior League of Hamilton/Burlington, Inc. Award. (90905)

THE MURIEL McBRiEN KAUFFMAN BURSARIES (U)
Established in 1997 by Robert McBrien Kauffman Foundation in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted annually to students enrolled in any program who demonstrate financial need. (90744)

THE JAN KELLEY MARKETING BURSARY (B)
Established in 1997 by Kelley Advertising Inc., founded in Hamilton in 1913. This bursary to be granted to a student enrolled in Business I, or in the first year of the M.B.A. program at DeGroote School of Business who demonstrates financial need. (90745)

THE ROBERT ALAN KENNEDY BURSARIES (U)
Established in 1997 by Robert Alan Kennedy under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90746)

THE KENTS FAMILY BURSARY (HS)
Established in 1997 by the Kents Family under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in the School of Medicine, the School of Nursing or the School of Rehabilitation Science. (90747)

THE PHILLIP GORDON KETTLE BURSARY (HS)
Established in 1996 in memory of Phillip Gordon Kettle. To be granted to a student enrolled in a Nursing program who demonstrates financial need. Preference is given to a student studying herbal medicine as an alternative therapy. (90676)

THE MARY KEYES MEMORIAL BURSARY (U)/
Established in 2002 by family and friends as a tribute to Dr. Mary E. Keyes, long-time teacher, coach, administrator and mentor at McMaster University. To be granted to a student who demonstrates financial need with a minimum 8.0 Cumulative Average in any program. Preference is given to students who show leadership and participation in McMaster student life. (90674)

THE KHAKI UNIVERSITY AND YOUNG MEN'S CHRISTIAN ASSOCIATION MEMORIAL BURSARIES (U)
Established in 1921 by the Khaki University of Canada and the Young Men's Christian Association. To assist students in any program who demonstrate financial need. (90523)

THE DAVID KINSLEY MEMORIAL BURSARY (H, SS)
Established in 2000 by family, friends, colleagues and former students of David Kinsley, Professor of Religious Studies at McMaster University from 1969 to 2000. To be granted to part-time students who have completed at least Level I of an undergraduate program in either the Faculty of Social Sciences or the Faculty of Humanities. Preference is given to students who have attained a minimum Cumulative Average of 7.0. (90562)

THE KIWANIS CLUB OF HAMILTON EAST BURSARY (R)
Established in 1997 by the Kiwanis Club of Hamilton East under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. Preference is given to members and former members of the Hamilton East Kiwanis Boys' and Girls' Club. (90749)

THE Knap MARSHALL BURSARY (AT, B)
Established in 2005 under the Ontario Trust for Student Support initiative. To be granted to students enrolled in the DeGroote School of Business who demonstrate financial need and who have demonstrated outstanding athletic achievement in an interservice sport. (91032)

THE RICHARD KONRAD BURSARIES (D)
Established in 1997 by Richard Konrad under the McMaster Student Opportunity Fund initiative in the belief that all students should have the opportunity to achieve their academic goals. A variable number of bursaries to be granted based upon demonstrated financial need in each of the following areas:

a) The Richard Konrad Bursaries for students enrolled in any program.

b) The Richard Konrad Bursaries for physically challenged students registered with the Centre for Student Development, who are enrolled in any program. (90750)

THE KPMG BURSARIES (B)
Established in 1996 by KPMG in support of its belief that students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students enrolled in the Faculty of Business who demonstrate financial need. (90607)

THE HAROLD J.L. KRUGEL BURSARY (H)
Established in 2000 by Mrs. J. Beverly Krugel (Class of '53) in honour of her husband, Harold J.L. Krugel. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student in the Department of Linguistics and Languages. (90947)

THE RAYMOND C. LABARGE MEMORIAL BURSARIES (S)
Established in 1973 by friends and associates in memory of Raymond C. Labarge (Class of '36) of Oakville. A variable number of bursaries to be granted to students enrolled in Level III or IV of any program who demonstrate financial need. Minimum Cumulative Average of 8.0 is required. (90524)

THE LAIDLAW INC. BURSARIES (U)
Established in 1996 by Laidlaw Inc. a major provider of transportation services to school boards, municipalities and the general public throughout Canada and the United States, in support of students pursuing their post-secondary studies at McMaster. A variable number of bursaries to assist students in any program who demonstrate financial need. (90608)

THE BETTY MAY LAMB MEMORIAL BURSARY (U)
Established in 1991 by family, friends, colleagues in memory of Betty May Lamb, an employee at McMaster University for 22 years, most recently as Executive Assistant to the Faculty Associate Dean from 1988-91. To assist students in any program who demonstrate financial need. (90655)

THE LANCASTER SHEET METAL LIMITED BURSARIES (U)
Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. (90751)

THE LANDMARK CONSULTING GROUP BURSARIES (U)
Established in 1996 by The LANDMARK Consulting Group Inc. in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90609)

THE NORMAN D. LANE BURSARIES (S)
Established in 1996 by family and friends in honour of Dr. Norman D. Lane, distinguished geometer and member of the Department of Mathematics and Statistics from 1952 to 1987 and now Professor Emeritus. A variable number of bursaries to be granted to students enrolled in a program in Mathematics who demonstrate financial need. (90510)

THE LANG FAMILY BURSARIES (U)
Established in 1996 by H. Murray Lang (Class of '44) of Etobicoke, Ontario in honour of his family's connection to McMaster. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90611)

THE JAMES R.A. LANGS BURSARIES IN THE ARTS (H)
Established by family in memory of James R.A. Langs (Class of '37), a Hamilton business leader and great supporter of the Hamilton Community. A variable number of bursaries to be granted to students enrolled in a program in Arts, Theatre & Film Studies or Music who demonstrate financial need. (90612)

THE JAMES R.A. LANGS STUDENT EXCHANGE PROGRAM BURSARIES (EX)
Established in 1996 by family in memory of James R.A. Langs (Class of '37), a Hamilton business leader and great supporter of the Hamilton Community. A variable number of bursaries to be granted to students enrolled in a program in Humanities who demonstrate financial need and who are participating in a formal McMaster Exchange Program. (90655)

THE KELLY DAWN LAPP MEMORIAL BURSARY (SS)
Established in 1997 by family and friends under the McMaster Student Opportunity Fund initiative in memory of Kelly Dawn Lapp who received her B.A./B.S.W. degree from McMaster University in 1996. To be granted to a student enrolled in the Social Work program who demonstrates financial need. Preference will be given to a student who has volunteered or worked in programs related to violence against women and children, employment and affordable housing for women, advocacy and treatment of mental health patients, addiction treatment or prevention of cruelty to animals. (90847)
THE GARY LAUTENS MEMORIAL BURSARIES (U)
Established in 1996 by Mrs. Jackie Lautens, the Toronto Star, family and friends, in memory of Gary Lautens (Class of '50), columnist and editor of the Toronto Star (1962-92), the Hamilton Spectator (1950-62) and the McMaster Silhouette (1948-50), remembered as a journalist with wit and insight. A variable number of bursaries to be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Gary Lautens Memorial Scholarship. (90613)

THE SZE-WAI LEE MEMORIAL BURSARY (E)
Established in 1997 under the McMaster Student Opportunity Fund initiative in honour of Sze-Wai Lee. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need and has shown involvement in support of the community, particularly multicultural events. (90752)

THE LEFLAR FOUNDATION BURSARY (R)
Established in 1997 by The Leflar Foundation in support of its belief that all students should be able to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students who are from the Owen Sound area. (90753)

THE BERTRAM LEGGAT MEMORIAL BURSARIES (U)
Established in 1996 by his family and friends in memory of Bertram Leggat, Q.C., as a tribute to his dedication to the community, his esteem in the legal profession and his devotion to his family. A variable number of bursaries to be granted to students who demonstrate financial need. (90614)

THE KEVIN LENCYELL BURSARY (B)
Established in 2006 by Kevin Lencyell, B.Com. (Class of '82). To be granted to students who have completed Level II or Level III of the Bachelor of Commerce program who demonstrate financial need. Preference to be given to students from the Region of Waterloo. (91056)

THE LIBURDI ENGINEERING LIMITED BURSARY (E)
Established in 1997 by Liburdi Engineering Limited under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in an Engineering program who demonstrates financial need. (90754)

THE LINCCLUDEN MANAGEMENT BURSARIES (U)
Established in 1997 by Linccluden Management Ltd. under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90755)

THE SADIE LUDLOW BURSARIES (AT)
Established in 1996 by family and friends of Sadie Ludlow, former McMaster employee from 1957 to 1977, and an outstanding athlete who loved sports. A variable number of bursaries to be granted to students who have demonstrated financial need and involvement in either McMaster intersport football or intervarsity women's tennis. (90615)

THE LIVIV POLYTECHNIC STATE UNIVERSITY EXCHANGE PROGRAM BURSARY (EX)
Established in 2000 by the Hamilton Ukrainian Community. To be granted to visiting students who have demonstrated financial need and are attending McMaster as participants in the Liviv Polytechnic State University Exchange Program. (90954)

THE LYNDEN LIONS CLUB BURSARY (CS)
Established in 1997 by the Lynden Lions Club under the McMaster Student Opportunity Fund initiative to exemplify the Lions international objective to take an active interest in the civic, cultural, social and moral welfare of the community. To be granted to a student enrolled in any program who has displayed commendable service to the community-at-large. Preference to be given to students who currently reside in the Lynden or Troy area. (90756)

THE JOHN A. 'JACK' MACDONALD BURSARIES (SS)
Established in 1996 as part of the Hamilton Sesquicentennial Celebrations in honour of John A. 'Jack' MacDonald for his 45 years of outstanding service and leadership to Hamilton and the region. A variable number of bursaries to be granted to students enrolled in a Political Science program who demonstrate financial need and interest in extracurricular or community activities. (90616)

THE EWAN MACINTYRE BURSARIES (SS)
Established in 1999 by the Social Work Alumni Branch, the Citizen Action Group, the Social Work Students Association, faculty (past and present), staff, friends, alumni, and various organizations associated with McMaster's School of Social Work as a tribute to Dr. Ewan MacIntyre for his 29 years of service to the School, including 12 years of service as the School's Director. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in a Bachelor of Social Work program. (90661)

THE BOB MACKENZIE BURSARY (SS)
Established in 1996 under the McMaster Student Opportunity Fund initiative, by Bob MacKenzie, political organizer for the United Steelworkers Union and valued MPP for Hamilton East for twenty years. To be granted to a student enrolled in a program in Labour Studies who demonstrates financial need. (90617)

THE ALEC JOHN ROYSTON MACMILLAN MEMORIAL BURSARIES (U)
Established in 1996 by his family in memory of Alec John Royston MacMillan under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to students who are from the recipients of The Alec John Royston MacMillan Memorial Awards. (90907)

THE PAUL R. MacPHERSON BURSARY (R)
Established in 1996 by Paul R. MacPherson (Class of '57) and augmented in 2003 under the McMaster Student Opportunity Fund II initiative in support of his belief that all students should be able to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to (i) students from Bracebridge and Muskoka Lakes Secondary School and (ii) Aboriginal students from a First Nations community in Ontario. (90838)

THE MAKSTEEL BURSARY (U)
Established in 1997 by Maksteel Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students from the Hamilton area. (90618)

THE ENRICO HENRY MANCINELLI BURSARIES (SS)
Established in 1996 by the Labourers' International Union of North America, Local 837 in honour of Enrico Henry Mancinelli, LIUNA Canadian Director and Vice President and Local 837 President. Two bursaries to be granted to students enrolled in a program in Labour Studies who demonstrate financial need. Preference will be given to students attaining a Sessional Average of at least 7.0 at the most recent review. (90619)

THE MANULIFE FINANCIAL BURSARIES (B, HS)
Established in 1997 by Manulife Financial under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the, Faculty of Health Sciences. (90762)

THE DR. ALBERT MARTIN BURSARIES (H)
Established in 1996 by Joyce Beverly Krugel, a former student of Dr. Albert Martin who was a Professor of German in the Faculty of Arts and Science from 1939 to 1961. A variable number of bursaries to be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in the Department of Linguistics and Languages. (90662)

THE RONALD E. MATERICK/TISHMAN BURSARY (E)
Established in 1996 by Ronald E. Matarick (Class of '70). To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference to be given to a student enrolled in Civil Engineering. (90665)

THE DOROTHY DEAN MATHESON MEMORIAL BURSARY (U)
Established in 2004 by bequest of Kenneth Matheson, in memory of Dorothy Dean Matheson (Class of '84). To be granted to female part-time students who demonstrate financial need. (91028)

THE LINDA MATTHEWS BURSARIES (U)
Established in 1996 by Linda Matthews (Class of '69). A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to female students. (90664)

THE JOHN AND HELEN MAXWELL BURSARIES (S)
Established in 1996 by John and Helen Maxwell of Ottawa. A variable number of bursaries to be granted to students enrolled in the Faculty of Science who demonstrate financial need. Preference to be given to students enrolled in a program in Earth Sciences or Chemistry. (90621)

THE HARRISON MAYNARD MEMORIAL BURSARY IN MIDWIFERY (HS)
Established in 2005 in memory of Harrison Maynard by his family and friends. To be granted to students enrolled in Level II or above of the Midwifery Education Program who demonstrate financial need. (91030)
THE J. B. McARTHUR BURSARY (H)
Established in 2005 by Joseph B. McArthur, son of J. B. McArthur, a 1905 graduate of McMaster University, who conscientiously served his alma mater for forty-two years as President of the McMaster Alumni Association (1911), member of McMaster’s Senate (1911-1931) and member of McMaster’s Board of Governors (1931-1953). To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. (91039)

THE NEIL D. McARTHUR BURSARIES (S, E)
Established in 1997 by the Anne and Neil McArthur Foundation in memory of Mrs. McArthur’s parents, Joseph and Josephine Hrynuljak. To be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in either the Faculty of Science or the Faculty of Engineering. (90765)

THE JOHN McCaHILL MEMORIAL BURSARY (AT)
Established in 2001 in loving memory of John (Jack) Woodhouse McCaHill by his family and friends. To be granted to a student who demonstrates financial need and who demonstrates outstanding athletic achievement in men’s basketball, golf, football, hockey or tennis. (90868)

THE KATHLEEN AND DENNIS McCALLA BURSARIES (AS, H, S)
Established in 2003 by Kathleen and Dennis McCalla, former Dean, Faculty of Science and later Vice-President, Faculty of Health Sciences at McMaster University. To be granted to students who demonstrate financial need and are enrolled in a program in Science, Humanities, or Arts and Science. Preference will be given to students with a minimum admission average of 80% and who are from Grey or Bruce Counties.

Value: Minimum $1,000 (90970)

THE DR. BRIAN MCCANN MEMORIAL BURSARY (S)
Established in 2004 by friends, colleagues and former students in memory of Dr. Brian McCann. To be granted to a student in the School of Geography and Earth Sciences who demonstrates financial need and is enrolled in a course offered by the School with an additional cost for a field component. (91015)

THE ANDREW McFARLANE BURSARIES (U)
Established in 1988 by bequest of Andrew McFarlane of Hamilton. To be granted to a student or students who are in good standing and have demonstrated financial need. (90526)

THE R. CRAIG McIVOR BURSARIES (SS)
Established in 1996 as a tribute to Professor R. Craig McIvor by his family, friends, colleagues and students. A variable number of bursaries to be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students enrolled in an Honours program in Economics. (90622)

THE JANET MCKNIGHT MEMORIAL BURSARIES (HS)
Established in 1996 in memory of Janet McKnight by the Pember Family. A variable number of bursaries to be granted to students enrolled in the final year of the Nursing program who demonstrate financial need. (90623)

THE McLAY BURSARY (EX)
Established in 1997 by David and Jean McLay under the McMaster Student Opportunity Fund initiative. To be granted to a student in any program who demonstrates financial need and who is participating in one of McMaster’s formal exchange programs. Preference to be given to students who have been active in international clubs and associations. (90767)

THE McLEAN FAMILY EXCHANGE BURSARIES (EX)
Established in 1997 by the McLean Family under the McMaster Student Opportunity Fund initiative, in gratitude for the learning and relationship enrichment which they obtained first at McMaster University, and subsequently through international travel. To be granted to students who wish to participate in exchange programs, who demonstrate financial need and who are enrolled in Level II or III of a program. Preference to be given to international exchanges, for students from the Faculty of Engineering or the Faculty of Humanities with a CA above 7.0 at the most recent review and who have shown leadership and involvement in university and/or community activities. (90439)

THE McMASTER ATHLETIC COUNCIL (MAC) BURSARY (AT)
Established in 1997 by the Men’s Athletic Council and the Women’s Inter-collegiate Athletics Council under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need and who is a member of any inter-university team at McMaster. (90905)

THE McMASTER BURSARIES (U)
Established in 1980 by the University to assist undergraduate students in any program. (90527)

THE McMASTER ENGINEERING SOCIETY BURSARY (E)
Established in 1999 by the McMaster Engineering Society. To be granted to a student in the Faculty of Engineering who demonstrates financial need. (90863)

THE McMASTER GENERAL BURSARIES (U)
Established in 1996 by the University to assist undergraduate students in any program who demonstrate financial need. (90624)

THE McMASTER ALUMNIAE CENTENNIAL BURSARY (U)
Established in 1980 by the McMaster Women’s Alumni, Hamilton Branch, to be granted to a mature student in his or her graduating year, who is a Canadian citizen or permanent resident and who exhibits financial need. Preference will be given to a single parent. (90528)

THE McMASTER ALUMNIAE ASSOCIATION BURSARY (U)
Established in 1997 by the McMaster Alumni Association in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need. (90862)

THE McMASTER ASSOCIATION OF PART-TIME STUDENTS BURSARIES (U)
Established in 1988 in celebration of McMaster’s Centennial to assist students currently enrolled in a degree or certificate program who, without such assistance, would be unable to continue their studies. Consideration may also be given to students who would not otherwise enroll without such assistance. Applications will be reviewed by the MAPS Awards Committee. (90523)

THE McMASTER ASSOCIATION OF PART-TIME STUDENTS 20TH ANNIVERSARY BURSARY (U)
Established in 1999 to commemorate its 20th anniversary by the McMaster Association of Part-Time Students. The bursary was further augmented by friends and colleagues of Helen Barton, MAPS’ first President and founding member, in recognition of her 27 years of service and retirement as Senior Associate Registrar at McMaster. To be granted to students currently enrolled in a part-time basis, in a degree, diploma or certificate program, who demonstrate financial need. Applications will be reviewed by the MAPS Awards Committee. (90635)

THE McMASTER ASSOCIATION OF PART-TIME STUDENTS 25TH ANNIVERSARY BURSARY (U)
Established in 2004 by the McMaster Association of Part-Time Students (MAPS) to commemorate its 25th anniversary. To be granted to students currently enrolled, on a part-time basis, in a degree, diploma or certificate program, who demonstrate financial need. Applications will be reviewed by the MAPS Awards Committee. (90985)

THE McMASTER HISPANIC SOCIETY BURSARY (H)
Established in 1999 by the McMaster Hispanic Society under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a Modern Languages program and enrolled in Hispanic Studies courses who demonstrates financial need. Preference will be given to students who demonstrate a lively interest in the University and community through their involvement in extracurricular activities. (90654)

THE McMASTER M.B.A. ALUMNIAE BURSARIES (B)
Established in 1996 by the McMaster M.B.A. Alumni Association. A variable number of bursaries to be granted to students enrolled in the first year of the DeGroote School of Business M.B.A. program who demonstrate financial need. (90626)

THE McMASTER MEN’S ATHLETICS BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Interuniversity Athletics to assist students in any academic program who demonstrate financial need and who demonstrate outstanding athletic participation in men’s basketball. (90705)

THE McMASTER MEN’S BASKETBALL BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Men’s Basketball to assist students in any academic program who demonstrate financial need and who demonstrate outstanding athletic participation in the sport of men’s basketball. (90770)

THE McMASTER SAVINGS AND CREDIT UNION LIMITED BURSARY (U)
Established in 1997 by Mcmaster Savings and Credit Union Limited in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted annually to McMaster students enrolled in any program who demonstrate financial need. (90672)

THE McMASTER SQUASH AND GOLF BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Golf and Squash to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of golf or squash. (90771)
THE McMASTER STUDENT OPPORTUNITY FUND BURSARIES (U)
Established in 1996 by McMaster University from general donations to the University bursary program and matching funding provided through the Ontario Student Opportunity Trust Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90627)

THE McMASTER STUDENT OPPORTUNITY FUND II BURSARIES (U)
Established in 2003 by McMaster University from general donations to the University bursary program and matching funding provided through the Ontario Student Opportunity Trust Fund II initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (91002)

THE McMASTER STUDENTS' UNION BURSARIES (U)
Established in 1998 by the McMaster Students' Union. To assist those undergraduate MU members who demonstrate financial need. (90530)

THE McMASTER UNIVERSITY FACULTY ASSOCIATION BURSARY (U)
Established in 1997 by the McMaster Faculty Association under the McMaster Student Opportunity Fund Initiative based on the assumption that all students should have access to educational opportunities. To be granted to a student enrolled in any program who demonstrates financial need. (90758)

THE McMASTER WOMEN'S BASKETBALL BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Women's Basketball to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's basketball. (90772)

THE McMASTER WOMEN'S CLUB BURSARY (HS)
Established in 1983 by the McMaster Women's Club and augmented in 1996 in recognition of the McMaster Student Opportunity Fund initiative to assist a student beyond Level I in the University's Bachelor of Science in Nursing program. (90531)

THE McMASTER WOMEN'S VOLLEYBALL BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Women's Volleyball to assist a student in any academic program who demonstrates financial need and who demonstrates outstanding athletic participation in the sport of women's volleyball. (90773)

THE KATHERINE M. COLLIER MC NALLY BURSARY (HS)
Established in 1997 by her children in honour of Katherine M. Collier McNally under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and has completed at least 30 units in the Midwifery, Physiotherapy or Nursing program. (90774)

THE MDS INC. BURSARY (HS)
Established in 1997 by MDS Inc., under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Health Sciences who demonstrates financial need. (90775)

THE A.J. MELLONI MEMORIAL FUND (U)
To be granted to a student in any program. (90532)

THE MELOCHE MONNEX INC. BURSARY (U)
Established in 1997 by Meloche Monnex Inc. under the McMaster Student Opportunity Fund initiative in the belief that students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90776)

THE MERITOR AUTOMOTIVE INC. BURSARY (E)
Established in 1999 by Meritor Automotive Inc. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a Mechanical Engineering program who demonstrates financial need. (90885)

THE EDNA C. AND FRANK CHARLES MILLER BURSARY (U)
Established in 1997 by Frank C. Miller in memory of his parents, Edna C. and Frank Charles Miller, in support of McMaster students. To be granted to a student enrolled in any program who demonstrates financial need. (90778)

THE ANN MINER MEMORIAL BURSARY (E)
Established in 2005 in memory of Ann Miner by her brother Jim Sweetman (Class of '77) and his wife Sheila. To be granted to students enrolled in a program in Chemical Engineering in the Faculty of Engineering who demonstrate financial need. (91033)

THE MINICH FAMILY BURSARIES (B)
Established in 1996 by E. A. Minich and family. A variable number of bursaries to be granted to students enrolled in Business I who demonstrate financial need. Preference to be given to students who demonstrate a lively interest in the University and community through their involvement in extracurricular activities. (90628)

THE GARY JAMES MINNETT BURSARY (SS)
Established in 1999 in memory of Gary James Minnett, B.A./B.P.E. (Class of '72) by his wife, Barbara, and daughters, Samantha and Erin. To be awarded to a student enrolled in a Kinesiology program who demonstrates financial need. Preference will be given to a student enrolled in Kinesiology I from a high school in the Hamilton area. (90866)

THE DR. F. A. MIRZA BURSARY (E)
Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of the Dr. F.A. Mirza Scholarship. (90895)

THE CAROL R. MITCHELL BURSARY (B)
Established in 2005 by Carol R. Mitchell, M.B.A. (Class of '82). To be granted to students enrolled in a Commerce program in the DeGroote School of Business who demonstrate financial need. (91051)

THE JAMES C. MOORE MEMORIAL BURSARY (H, SS)
Established in 1989 by family and friends in memory of James C. Moore. To be granted to a student in Humanities or Social Sciences who demonstrates financial need and involvement in student government. (90565)

THE THERESE E. MOORE BURSARY (H)
Established in 2003 by David M. Moore (Class of '00) in honour of his mother, Therese E. Moore. To be granted to a student enrolled in a program in History who demonstrates financial need. (91000)

THE ROBERT JOHN MORRIS BURSARIES (E)
Established in 1996 by family, friends and colleagues of Robert John Morris. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Engineering. Preference will be given to in-course recipients and/or entrance level recipients of The Robert John Morris Awards in the year they receive the award. (90630)

THE WALLACE R. MORRIS BURSARY FUND (U)
Established in 1997 by bequest of Wallace Ronald Morris. A variable number of bursaries to be granted to students enrolled in the Faculty of Engineering who demonstrate financial need. (90852)

THE JOHN DOUGLAS MOYER BURSARY (U)
Established in 1986 by bequest of John Douglas Moyer to assist needy students. (90534)

THE HONOURABLE JOHN C. MUNROE BURSARIES (SS)
Established in 1998 by family, friends and colleagues of the Honourable John C. Munro for his outstanding years of service and commitment to the political life of Canada and to the Regional Municipality of Hamilton-Wentworth. A variable number of bursaries to be granted to students enrolled in a program in Political Science who demonstrate financial need. (90846)

THE SAMMON MUNROE BURSARY (H)
Established in 2003 by Robert Munroe (Class of '72) and Sheila Sammon under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Humanities who demonstrates financial need. Preference will be given to a student enrolled in a program in History. (90892)

THE HELEN K. MUSSALLEM BURSARY (U)
Established in 1998 by Dr. Helen K. Mussallem (C.C., B.N., Ed.D., L.L.D (Queen's), D.Sc., D.St.J., F.R.C.N., M.R.S.H.) under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Helen K. Mussallem Award. (90909)

THE CAROLE AND ALEXANDER NAKEFF BURSARIES (SS)
Established in 2000 by Carole Anne Nakoff (Class of '89) and Dr. Alexander Nakoff. A variable number of bursaries to be granted to students enrolled in a Political Science or Environmental Studies program who demonstrate financial need. (90946)

THE NCR (WATERLOO) BURSARY (E)
Established in 1998 by NCR (Waterloo) under the McMaster Student Opportunity Fund initiative in support of the Hamilton community, and in support of the efforts of McMaster University to ensure that all students have the opportunity to achieve their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90842)

THE MARJORIE AND BILL NELSON BURSARY (U)
Established in 1997 by Marjorie and Bill Nelson under the McMaster Student Opportunity Fund initiative in support of the Hamilton community, and in support of the efforts of McMaster University to ensure that all students have the opportunity to achieve their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90781)
THE NELSON STEEL BURSARY (U)
Established in 1987 by Nelson Steel in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students in any program who demonstrate financial need. (90762)

THE NHL PLAYERS’ ASSOCIATION BURSARY (AT)
Established in 1999 by The NHL Players’ Association Alumni. To be granted to a student enrolled in any program who demonstrates financial need and who has demonstrated outstanding athletic achievement in an intersport. (90889)

THE HAROLD NOLAN MEMORIAL FOOTBALL BURSARY (AT)
Established in 2003 by Els and John Swart. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. Preference will be given to students who have participated in a conference or workshop on Germanology. (90785)

THE CLAIRE AND JOHN NOVAK BURSARY (E)
Established in 1987 by Bruce Cumming (Class of 73) and Marie Cumming in honour of Claire and John Novak. To be granted to a student enrolled in the Faculty of Business who demonstrates financial need. (90784)

THE NURSING CLASS OF 1986 BURSARIES (SS)
Established in 2006 by the Nursing Class of 1986 in honour of their 20th reunion. To be granted to students enrolled in the School of Nursing who demonstrate financial need. (91057)

THE DR. ALFRED AND LAURA OAKIE BURSARIES (B)
Established in 1996 by Dr. Alfred U. Oakie. A variable number of bursaries to be granted to students enrolled in Business I who demonstrate financial need. (90531)

OAKRUN FARM BAKERY BURSARY (HS)
Established in 2004 by Oakrun Farm Bakery, the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Health Sciences who demonstrate financial need. (91013)

THE ONCOLOGY NURSING PROGRAM BURSARY (U)
Established in 1997 in recognition of the contribution of McMaster students under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Oncology Nursing Program Award. (90910)

THE ORLICK INDUSTRIES LIMITED BURSARIES (E)
Established in 1997 by Orlick Industries in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in a Mechanical Engineering program who demonstrate financial need. (90785)

THE O’SHAUGHNESSY BURSARY (HS)
Established in 1986 by the family and friends of the late Margaret O’Shaughnessy, RN, this bursary is to be used to alleviate financial need for students pursuing an education in Nursing (basic or post-diploma stream in Level II, III, or IV). (90535)

THE OTIS CANADA BURSARIES IN ENGINEERING AND MANAGEMENT (E)
Established in 1996 by OTIS Canada Inc., the world’s largest elevator company with over 50,000 employees and more than 1,700 worldwide locations. A variable number of bursaries to be granted to students enrolled in Level II of a program in Engineering and Management who demonstrate financial need. Preference to be given to students who demonstrate a lively interest in the university and community through their involvement in extracurricular activities. (90532)

THE LILLIAN AND LEROY PAGE BURSARIES (R)
Established in 1997 by the Lillian and Leroy Page Foundation to enable students to pursue their educational goals. A variable number of bursaries to be granted to students from the Hamilton-Wentworth Region who demonstrate financial need. Preference to be given to students in the Faculty of Science. (90786)

THE THOMAS ALEXANDER PAIN BURSARY (AT)
Established by past and present student-athletes and friends of McMaster Football to assist students in any academic program who demonstrate financial need and who demonstrate outstanding participation in the sport of football. (90777)

THE DR. JOHN H. PASSMORE BURSARIES (S, SS)
Established in 2004 by Dr. John H. Passmore (Class of ’33) under the McMaster Student Opportunity Trust Fund II initiative. To be granted to students enrolled in the Faculty of Science or the Faculty of Social Sciences who demonstrate financial need. Preference will be given to students who are studying Environmental Studies. (91011)

THE PATRIOT FORGE INC. BURSARY (E)
Established in 1997 by Patriot Forge Inc. in support of McMaster students. To be granted to a student enrolled in the Faculty of Engineering who demonstrates financial need. Preference will be given to a student enrolled in Mechanical, Chemical or Materials Engineering. (90788)

THE PATTERSON-WILSON BURSARIES (H)
Established in 2003 by the bequest of Laurence Cholwill Patterson under the McMaster Student Opportunity Fund II initiative. To be granted to students in the Faculty of Humanities who demonstrate financial need. (90999)

THE MARION PEARCE BURSARIES (S)
Established in 1990 by Dr. Sally Palmer in memory of her aunt Marion Pearce (Class of 20). Miss Pearce worked with New Canadians at the Beverly Street Baptist Church in Toronto. A variable number of bursaries to be granted to students enrolled in the Social Work program who have demonstrated financial need. (90536)

THE DR. HOLLAND AND MRS. ELVIRA PETERSON BURSARY (H)
Established in 1997 by Dr. Holland and Mrs. Elvira Peterson under the McMaster Student Opportunity Fund II initiative. To be granted to a student who demonstrates financial need and is enrolled in Level II or higher of a Hispanic Studies or German program in the Department of Linguistics and Languages. (90789)

THE ELVIRA AND HOLLAND PETERSON BURSARY (H)
Established in 2000 by Mrs. Elvira Peterson (Class of ’96) and Dr. Holland Peterson. To be granted to a Level II student enrolled in the Honours Art History or Combined Honours Art History Program who demonstrates financial need. (90654)

THE PETRO-CANADA BURSARIES (U)
Established in 1996 by Petro-Canada, the largest Canadian-owned oil and gas company and one of the country’s leading refiners and marketers of petroleum products, in support of its belief that all students should have the opportunity to pursue their educational aspirations. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90534)

THE PENVENSING BURSARIES (SS)
Established in 1996 by Mr. and Mrs. Pevensing (Class of 64). A variable number of bursaries to be granted to students enrolled in the penultimate year of an Honours program in Economics who demonstrate financial need. (90676)

THE ROBERT AND RUTH PHILIP STUDENT BURSARIES (U)
Established in 1996 by Robert and Ruth Philip of Hamilton, Ontario. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90635)

THE BETH PHINNEY BURSARY (SS)
Established in 2005 by Beth Phinney, B.A. (Class of ’78), and Member of Parliament for Hamilton Mountain for 13 years. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (91038)

THE PHYSICAL EDUCATION CLASS OF ’80 25TH ANNIVERSARY BURSARY (SS)
Established by the Bachelor of Physical Education Class of ’80 in honour of their 25th Anniversary. To be granted to students in Level II or above of a program in Kinesiology who demonstrate financial need. (91040)

THE MARC ANDRE ADRIEN PINEAULT BURSARY (E)
Established in 1996 by family and friends in memory of Marc Pineault and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in a program in Engineering who has demonstrated financial need and involvement in University activities including the McMaster Choral, varsity wrestling, karate club and issues related to the environment and social justice. (90578)

THE PIONEER GROUP LTD. BURSARY (U)
Established in 1987 by the Pioneer Group of Companies Inc. under the McMaster Student Opportunity Fund Initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Pioneer Group Inc. Award. (90911)
THE PITCHEI-RAFDORI BURSARIES (S)
Established in 2004 by Bruce Rafrod (Class of '71) and Elda Rafrod (Pitcher) (Class of '71) under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in the School of Geography and Earth Sciences who demonstrate financial need. Preference will be given to students who have completed Level III of an Honours Geography program with a Cumulative Average of 8.0 at the most recent review. (90953)

THE DR. SUSAN BEVERLEY PLANK MEMORIAL BURSARY (HS)
Established in 1997 by Mr. William J. Plank, family and friends, in memory of Dr. Susan Beverley Plank (Class of '90). To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Health Sciences, School of Medicine. (90791)

THE GEORGE PLUMB MEMORIAL BURSARY (SS)
Established in 1995 by David Plumb in memory of his father George Plumb. To be granted to a student enrolled in a program in Gerontology who demonstrates financial need. Preference will be given to a mature student. (90936)

THE LILLIAN PLUMB BURSARY (H)
Established in 1998 by David Plumb in honour of his mother, Lillian Plumb. To be granted to a student enrolled in a program in the Department of English and Cultural Studies and who demonstrates financial need. (90535)

THE GORDON AND JANE PRICE BURSARY (U)
Established in 1997 by their sons in honour of Gordon and Jane Price under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Gordon and Jane Price Award. (90912)

THE LES PRINCE BURSARIES (AT)
Established in 1996 by Leslie A. Prince, dedicated teacher, coach and administrator at McMaster University, remembered for his outstanding leadership and service in Athletics and Recreation, Student Life as well as the community-at-large. To assist student-athletes who demonstrate financial need. Preference to be given to students who demonstrate qualities of leadership and service to the community through programs such as The Marauder Outreach program and Community Service. (90637)

THE PROCTOR BURSARIES (B, E)
Established in 1997 by Procor Ltd. in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to students enrolled in Engineering or Commerce who demonstrate financial need and undertake service to McMaster University and the community-at-large. (90699)

THE WALLACE M. RANKIN BURSARY IN THE SCHOOL OF NURSING (HS)
Established in 2006 by an anonymous donor. To be granted to students in the School of Nursing who demonstrate financial need. (91055)

THE GORDON RAYMOND BURSARY (U)
Established in 1996 by the McMaster Association of Part-time Students and other friends and colleagues under the McMaster Student Opportunity Fund initiative. To be granted to part-time students in any program who demonstrate financial need. Preference will be given to the recipient of The Gordon Raymond Award. (90638)

RBC FINANCIAL GROUP BURSARY (U)
Established in 1997 by the Royal Bank of Canada in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to McMaster students who demonstrate financial need. (90797)

THE REDPATH SUGARS BURSARY (U)
Established in 1997 by Redpath Sugars, Division of Redpath Industries Limited, in support of its belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in any program who demonstrates financial need. (90824)

THE REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH BURSARIES (R)
Established in 1997 by The Regional Municipality of Hamilton-Wentworth in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students enrolled in a program who demonstrate financial need. Preference will be given to students who permanently reside in the Hamilton-Wentworth Region. (90794)

THE RICOH CANADA INC. BURSARIES (B, E)
Established in 1996 by Ricoh Canada Inc. in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students who demonstrate financial need and are enrolled in the Faculty of Business or the Faculty of Engineering. (90639)

THE JAMES AND ELIZABETH ROBERTS BURSARIES (U)
Established in 1957 by R.H. Roberts in memory of his parents to assist any male student of good academic standing. (90538)

THE HUGH AND ALICE ROBERTSON MEMORIAL BURSARIES (U)
Established in 1997 by R. G. Hamish Robertson in honour of his parents Hugh and Alice Robertson under the McMaster Student Opportunity Fund initiative. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90795)

THE ROBERTSON-YATES CORPORATION BURSARIES (B, E)
Established in 1996 by the Robertson-Yates Corporation of Hamilton in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in a program in Business or Engineering who demonstrate financial need. (90940)

THE MARY ROMEO BURSARY IN ART HISTORY (H)
Established in 1997 by Mary Romeo, a lifelong patron of the arts. To be granted to undergraduate and graduate students who have demonstrated financial need and are enrolled in a program in Art History. (90668)

THE RANDOLPH E. ROSS MEMORIAL BURSARY (EX)
Established in 1998 by family and friends in memory of Dr. Randolph E. Ross, who was a dedicated and cherished faculty member for over 25 years at McMaster University. To be granted to a student enrolled in the School of Business or the Engineering and Management Program. Preference will be given to a McMaster student participating in an international exchange program. (90914)

THE HELEN LENORE ROSZELL MEMORIAL BURSARIES (U)
Established in 2000 by bequest of Helen Lenore Roszell. A variable number of bursaries to be granted to students in any program who demonstrate financial need. (90551)

THE ROTARY CLUB OF ANCASTER BURSARY (U)
Established in 1997 by the Rotary Club of Ancaster under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Ancaster Award. (90914)

THE ROTARY CLUB OF BURLINGTON CENTRAL BURSARY (U)
Established in 1997 by the Rotary Club of Burlington Central under the McMaster Student Opportunity Fund initiative. To be granted to students who are enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Burlington Central Award. (90915)

THE ROTARY CLUB OF HAMILTON BURSARY (U)
Established in 1997 by the Rotary Club of Hamilton under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Rotary Club of Hamilton Award. (90875)

THE ROYAL CANADIAN LEGION BRANCH 163 BURSARY (SS)
Established in 1997 by the Royal Canadian Legion Branch 163 in support of the McMaster Student Opportunity Fund initiative and in keeping with the Legion's intention to support community service, education and leadership programs in the country. To be granted to a student enrolled in a Gerontology program who demonstrates financial need. (90798)

THE ROYAL & SUNALLIANCE BURSARIES (U)
Established in 1997 by Royal & SunAlliance Canada in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students who demonstrate financial need. (90799)

THE CARMEN AND DOROTHY RYDER BURSARY (B)
Established in 1997 by Marvin Ryder under the McMaster Student Opportunity Fund initiative in honour of Carmen and Dorothy Ryder. To be granted to a student enrolled in the Faculty of Business who demonstrates financial need. Preference to be given to a student entering Level III or IV. (90800)
THE ELEANOR AND WILFRED RYDER BURSARY (R)
Established in 1995 by Marvin Ryder in honour of Eleanor and Wilfred Ryder. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students from Oxford County or Norfolk County. (90894)

THE SALENA FAMILY BURSARY (HS)
Established in 1997 under the McMaster Student Opportunity Fund initiative by Dr. Bruce Salena (Class of ’81), full-time faculty member in the Faculty of Health Sciences, and his family. To be granted to a student who demonstrates financial need and is enrolled in the Faculty of Health Sciences, School of Medicine. (90801)

THE HELEN SANSONE BURSARIES (U)
Established in 1996 by bequest of Helen Sansone of Hamilton, Ontario. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. (90641)

THE SATURN OF HAMILTON EAST BURSARY (U)
Established in 1996 by SATURN of Hamilton East under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Saturn of Hamilton East Achievement Award. (90519)

THE WILLIAM F. SCANDLAN BURSARIES (SS)
Established in the 50th anniversary year of the historical Stelco steel strike of 1946 by William F. Scandlan, valued member of the United Steelworkers of America for 44 years including terms as International Representative (1953) and Area Supervisor (1976 to 1986). Alderman to the City of Hamilton (1984-1976) and Regional Councillor (1973-1976). To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to students enrolled in a Labour studies program. (90542)

THE GINO AND ROBERTA SCAPILLATI BURSARY (B, SS)
Established in 2004 by Gino Scappiati (Class of ’81) and Roberta Scappiati (Class of ’79) under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in the Faculty of Business or Faculty of Social Sciences who demonstrates financial need. Preference will be given to students enrolled in Earth Sciences. (90539)

THE SCHOOL OF NURSING BURSARY (HS)
Established in 2004 by the School of Nursing through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the School of Nursing who demonstrates financial need. (91003)

THE SCIENCE ALUMNI BURSARY (S)
Established in 2004 by the Faculty of Science through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Science who demonstrates financial need. Preference will be given to a student who has attained a minimum Cumulative Average of 7.0 at the most recent review. (90804)

THE SCIENCE CLASS OF ’97 LEGACY BURSARY (U)
Established in 1997 by the Science Class of ’97 under the McMaster Student Opportunity Fund II initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Science Class of ’97 Legacy Award. (90920)

THE SCOTIAMCLEOD BURSARIES (B)
Established in 1997 by ScotiaMcLeod in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries to be granted to students enrolled in any program who demonstrate financial need. Preference to be given to students enrolled in the Faculty of Business. (90802)

THE TERRY SEAWRIGHT BURSARY (B)
Established in 1996 by Terry Seawright, Lecturer in the Faculty of Business. To be granted to a student in the Commerce Program who demonstrates financial need. Preference to be given to the student who has completed COMMERC 2MA3 and attained a grade of at least B. (90643)

THE MYKOLA SEMENIUK BURSARIES (U)
Established in 1991 by bequest of Mykola Semeniuk to assist students who demonstrate financial need and augmented in 1996 in conjunction with the McMaster Student Opportunity Fund initiative. (90551)

THE LOUIS S., AND ROSITA SERAFINI BURSARY (U)
Established in 2004 by Louis Sr. and Lori Ann Serafini, graduates of McMaster University, in honour of Louis Sr. and Rosita Serafini under the McMaster Student Opportunity Fund II initiative. To be granted to a student enrolled in any program who demonstrates financial need. (91024)

THE LEO W. SETO BURSARY (U)
Established in 2003 by Leo W. Seto, B.Eng. Mgt. (Class of ’87) and M.Eng. (Class of ’90) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Engineering who demonstrates financial need. (90598)

THE ROSA MAUDE SHEARDOWN BURSARY (R, U)
Established in 1996 by Gordon R. Baker, Q. C. in honour of his foster mother, Rosa Maude Sheardown, and her belief in the importance of education and providing a helping hand to others. To be granted to students in any Faculty who demonstrate financial need. Preference to be given to students from single-parent families, foster or group homes, disadvantaged backgrounds or small Township. (90667)

THE LESLIE W. AND ELIZABETH SHEMILT BURSARY (E)
Established in 1997 under the McMaster Student Opportunity Fund initiative. To be granted to a student who demonstrates financial need and is enrolled in an Engineering program. (90563)

THE GERALD AND Verna Simpson Bursary (SS)
Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Gerald and Verna Simpson Scholarship. (90665)

THE MEENA AND NARESH SINHA BURSARY (U)
Established in 1996 by Meena and Narish Sinha under the McMaster Student Opportunity Fund Initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of the recipient of The Meena and Narish Sinha Award. (90620)

THE ALBERT EDWARD SMITH AND JEAN MCTAVISH SMITH BURSARY (U)
Established in 1998 by Mrs. Jean Mctavish Smith (Class of ’31), in memory of Albert Edward Smith (Class of ’29) under the McMaster Student Opportunity Fund initiative. To be granted to a student in any program who demonstrates financial need. (90836)

THE SAM SMURLICK BURSARY (U)
Established in 1978 by the Smurlick family in memory of Sam Smurlick (Class of ’35). To be granted to a student in any program who demonstrates financial need. (90541)

THE SMYRNIE BURSARY (H)
Established in 1996 by Dr. and Mrs. W. Smyrniew. To be granted to students who are Canadian citizens or permanent residents who demonstrate financial need and are in good academic standing in any undergraduate program of the Faculty of Humanities above Level I. (90661)

THE SOCIAL SCIENCES BURSARY (SS)
Established in 2004 by the Dean of the Faculty of Social Sciences through the generosity of its alumni and friends under the McMaster Student Opportunity Fund II initiative. To be granted to students enrolled in the Faculty of Social Sciences who demonstrate financial need. (90109)

THE SOCIAL SCIENCES SOCIETY BURSARIES (SS)
Established in 1990 by the Social Sciences Society Executive in recognition of the outstanding efforts of Dr. Peter George in establishing the Social Sciences Society. A variable number of bursaries to be granted to full-time students enrolled in a Social Sciences program involving Anthropology, Economics, Geography, Gerontology, Labour Studies, Political Science, Psychology, Religious Studies, Social Work or Sociology and who demonstrate financial need. (90542)

THE LORNA AND DAVID SOMERS BURSARY (U)
Established in 1997 by Lorna Somers (Class of ’81) and David Somers (Class of ’88) under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Lorna and David Somers Award. (90922)

THE SOMERVILLE BURSARY (U)
Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to a recipient of The Somerville Scholarships. (90681)

THE GEORGE SORGER BURSARY IN BIOLOGY (CS, S)
Established by the family of Dr. George Sorger. To be granted to a student in Level IV of a Biology program who demonstrates financial need. Preference will be given to students who have attained a Cumulative Average of at least 9.0 at the most recent review and who are also involved in community service. (91023)
THE SALVATORE SPITALE MEMORIAL BURSARY (H)
Established in 1984 and augmented in 1997 by the Spitale family in conjunction with the McMaster Student Opportunity Fund initiative. To be granted to a student in the Department of Linguistics and Languages. It is given to students who demonstrate active involvement in community life. (90785)

THE ST. PAUL GUARANTEE INSURANCE BURSARY (U)
Established in 1997 by London Guarantee Insurance in support of its belief that all students should have the opportunity to pursue their educational goals. A variable number of bursaries will be granted annually to McMaster students who demonstrate financial need. (90757)

THE LILLIAN R. STEGNE MEMORIAL BURSARIES (D)
Established in 1990 in memory of Lillian Rose Stagno (Class of ’82) by family, friends and colleagues. Two or three bursaries will be granted to handicapped students in any program who demonstrate financial need. (90543)

THE STELCO UNDERGRADUATE BURSARIES (B, E, S)
Established in 1996 by Stelco—a market-driven, technologically advanced group of businesses committed to maintaining leadership roles as steel producers and fabricators—in support of students who, without financial aid, would be unable to pursue their educational goals. To be granted to students who demonstrate financial need and are enrolled in the Departments of Business, Engineering or Science. Preference will be given to students who are enrolled in the Department of Materials Science and Engineering. (90644)

THE FRANK S.TERN/STERN LABORATORIES BURSARY (E)
Established in 2005 in memory of Frank Stern, Chairman and CEO of Stern Laboratories Inc. To be granted to students enrolled in a program in Mechanical Engineering who demonstrate financial need. (91054)

THE ADAM SUDAR PRINTMAKING BURSARY (U)
Established in 1997 in memory of Adam Sudar by his friends under the McMaster Student Opportunity Fund initiative. To be granted to students in any program who demonstrate financial need. Preference will be given to the recipient of The Adam Sudar Printmaking Award. (90923)

THE THOMAS H.B. SYMONS BURSARIES (SS)
Established in 1997 by Professor Thomas H.B. Symons under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in the Faculty of Social Sciences with a minimum Cumulative Average of 3.0 at the most recent review who demonstrate financial need. Preference will be given to students studying Canadian Politics. (90882)

THE TD BANK FINANCIAL GROUP BURSARIES (E, SS)
Established in 1999 by the TD Bank Financial Group in support of its commitment to helping students succeed in their post-secondary studies. A variable number of bursaries will be granted to students in any program who demonstrate financial need. Preference to be given to students enrolled in the Earth and Environmental Sciences, the Honours Geography and Environmental Studies or an Engineering and Society Program. (90939)

THE 3M CANADA LTD. BURSARIES (B, S)
Established in 1980. To be granted to students in their final year of studies who demonstrate financial need. One or a M.B.A. student who has attained at least a 6 point average and one to a Science student who has attained a Cumulative Average of at least 9.0 at the most recent review. (90525)

THE TARBUtt CONSTRUCTION LTD. BURSARY (U)
Established in 1997 by Tarbutt Construction Ltd. under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in any program who demonstrates financial need. (90732)

THE EDWIN A. TAYLOR BURSARY (SS)
Established in 2005 by Edwin A. Taylor, B.A. (Class of ’54) and M.B.A. (Class of ’53). To be granted to a student in the Faculty of Social Sciences who demonstrates financial need. (91046)

THE HERMAN TEN CATE MEMORIAL BURSARY (SS)
Established in 2002 in memory of Herman ten Cate by his family, in support of his belief that all students should have the opportunity to pursue their educational goals. To be granted to a student enrolled in the Faculty of Social Sciences who demonstrates financial need. (90785)

THE DONALD W. THOMAS BURSARIES (H)
Established in 1996 by Donald W. Thomas of Dundas, Ontario. A variable number of bursaries to be granted to students in the Faculty of Humanities who demonstrate financial need. (90545)

THE DONALD WILLIAM THOMAS MEMORIAL BURSARY (H)
Established in 2005 by Jack Craig in memory of Donald William Thomas, B.A. (Class of ’70). To be granted to students enrolled in the Faculty of Humanities who demonstrate financial need. Preference will be given to students enrolled in a program in the School of the Arts. (91050)

THE STEPHEN F.H. TRELKELD BURSARY (U)
Established in 1997 by friends and colleagues of Stephen F.H. Threlkeld under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Stephen F.H. Threlkeld Award. (90924)

THE TTK INC. BURSARIES (U)
Established in 1997 by TTK Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The TTK Inc. Awards. (90925)

THE GRAHAM RONALD TOOP BURSARIES (H)
Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Graham Ronald Toop Scholarship. (90855)

THE BROOKE P. TOWNSEND BURSARIES (SS)
Established in 1998 by Brooke P. Townsend. To be granted to a student in any program who has demonstrated financial need. Preference to be given to a female student enrolled in the Faculty of Science. (90760)

THE TOWNSHIPS OF NORTH DUMFRIES AND WOOLWICH IN WATERLOO REGION AND TOWNSHIP OF CENTRE WELLINGTON AND CITY OF GUELPH IN WELLINGTON COUNTY BURSARIES (R)
Established in 2005 under the Ontario Trust for Student Support program to ensure that all students have the opportunity to pursue their educational goals. To be granted to students in any Faculty who demonstrate financial need. Preference will be given to students residing in the Townships of North Dumfries and Woolwich in Waterloo Region and Township Centre Wellington and City of Guelph in Wellington County. (91037)

THE TRILLIUM NON PROFIT VENTURES FOR YOUTH BURSARIES (SS)
Established in 2004 by Trillium Non Profit Ventures for Youth. To be granted to students who demonstrate financial need. Preference will be given to students enrolled in the School of Social Work. (91104)

THE ROBERTA GRAY TRUXEL BURSARY (H)
Established in 1995 by Roberta Gray Truxel under the McMaster Student Opportunity Fund initiative. To be granted to a student enrolled in the Faculty of Humanities who demonstrates financial need. Preference to be given to a female undergraduate student enrolled in a History program. (90735)

THE TROY FAMILY BURSARIES (B)
Established in 2004 by Kenneth, B. Com. (Class of ’75) and Brenda Troy in honour of Anthony and Marie Troy in support of their belief that all students should have the opportunity to pursue their educational goals. To be awarded to a full-time student enrolled in Level II or above of the Bachelor of Commerce program who demonstrates financial need and was on the Deans’ Honour List at the most recent review. (91277)

THE TRESSILIA TRUBY MEMORIAL BURSARY (H)
Established in 1992 from the bequest of Tressilia Truby (M.C.S.P) and Past-President of the Zonta Club of Hamilton II. To be granted to a female student who has completed Level II of a program in Music. (90556)

THE RAY AND JOYCE TRULL BURSARIES (U)
Established in 1986 by Roger and Janet Trull and their children in honour of Ray and Joyce Trull. To be granted to a student in any program who demonstrates financial need. (90837)

THE ROGER TRULL BURSARY (U)
Established in 1997 by friends and colleagues under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Roger Trull Award. (90925)

THE GEORGE ELIAS TUCKETT BURSARIES (U)
Established in 2005 in memory of George Elias Tuckett, a prominent Hamilton businessman and community leader who founded the oldest tobacco manufacturing company in Canada—a company that has been part of Imperial Tobacco since 1930. To be granted to students in any Faculty who demonstrate financial need. (91047)

THE TURKSTRA LUMBER BURSARIES (E)
Established in 1996 by the Turkstra Lumber Company Limited. A variable number of bursaries to be granted to students enrolled in an Engineering and Society program who demonstrate financial need. Preference will be given to students who attain a Sessional Average of at least 7.0 at the most recent review. (90647)
This text contains a list of various bursaries and scholarships, along with their eligibility criteria and application processes. The bursaries are categorized and named according to their sponsors and criteria, such as financial need, academic performance, and involvement in specific programs or activities. Each entry includes the name of the bursary, its establishment year, and any additional details such as the recipient's qualifications and the purpose of the bursary. The text is likely intended to inform students about available funding opportunities to further their education. The document seems to be a part of a larger collection or catalogue of scholarships and bursaries, possibly for students at a particular university, given the names of the bursaries and the context of the content.
THE WRIGHT FAMILY BURSARY (B, S)
Established in 2003 by Thomas C. Wright, M.B.A. (Class of '72) under the McMaster Student Opportunity Fund II initiative. To be granted to a student in the Faculty of Business or the Faculty of Science who demonstrates financial need. (90999)

THE JOHN YARWOOD MEMORIAL BURSARY (S)
Established in 1998 by family and friends in memory of Dr. A.J. Yarwood. To be granted to a Level II student enrolled in an Honours Chemistry program who demonstrates financial need. (90844)

THE JOHN YARWOOD MEMORIAL BURSARY (S)
Established in 1998 by family and friends in memory of Dr. A.J. Yarwood. To be granted to a student enrolled in any program. (90549)

THE GLADYS A. YOUNG BURSARY (U)
Established in 1997 under the McMaster Student Opportunity Fund initiative. Preference will be given, if financial need is demonstrated, to the recipient of The Gladys A. Young Scholarship. (90878)

THE JAMES MASON YOUNG BURSARY (EX)
Established in 1996 by James Mason Young in honour of his family's long-standing association with McMaster University. A variable number of bursaries to be granted to students enrolled in the Faculty of Business who demonstrate financial need. Preference to be given to students participating in a formal McMaster Exchange Program. (90778)

THE SHEILA ZACK MEMORIAL BURSARY (H)
The Sheila Zack Memorial bursary established by the 45th Annual B'nai B'rith Sports Celebrity Dinner, to be awarded to a student with financial need enrolled in a program in Theatre & Film Studies at McMaster University. (90764)

THE ZENON ENVIRONMENTAL BURSARY (U)
Established in 1997 by Zenon Environmental Inc. under the McMaster Student Opportunity Fund initiative. To be granted to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Zenon Environmental Award. (90931)

THE ZONTA CLUB OF HAMILTON BURSARIES (B, E, SS)
Established in 1997 by the Zonta Club of Hamilton in support of the McMaster Student Opportunity Fund initiative and in the belief that all students, particularly women in non-traditional fields, should have the opportunity to pursue their educational goals. To be granted to students enrolled in any program who demonstrate financial need and is enrolled in the Faculty of Engineering, or in Business or is enrolled in a course in Indigenous Studies. Preference to be given to female students. (90550)

THE ZOOM MEDIA INC. BURSARY (U)
Established in 1997 by Zoom Media Inc. in support of McMaster students under the McMaster Student Opportunity Fund initiative. Preference will be given to students enrolled in any program who demonstrate financial need. Preference will be given to the recipient of The Zoom Media Award. (90932)
THE COMMUNITY CONTRIBUTION AWARDS

The Community Contribution Awards represent recognition for contribution to the University or the community-at-large. To be eligible for consideration for a Community Contribution Award, full-time and part-time students must be registered in Level II, III, IV or V of a first or second baccalaureate program. Eligible candidates must be registered and in good standing as a student of McMaster University.

A student may receive only one Community Contribution Award per year, but may be considered for the same or a different award the following year.

These awards have no monetary benefit but a notation will appear on the student's transcript. The recipient of a Community Contribution Award may be eligible to receive the corresponding donor bursary if financial need is demonstrated. Further information on our bursary program can be found at http://bursaries.mcmaster.ca/bursary/mcmaster.html.

The Community Contribution Awards are awarded by a Selection Committee based on an application. The Community Contribution Application cover page will be available from the Office of Student Financial Aid & Scholarships' website after February 1. Completed applications are to be received by the Student Financial Aid Office, by April 15.

THE ATKINSON CHARITABLE FOUNDATION AWARD
Established in 1996 by The Atkinson Charitable Foundation. To be awarded to a student enrolled in any program who participates in activities displaying superior leadership or innovative skills and demonstrates service to the community-at-large. Preference to be given to a student enrolled in the Faculty of Social Sciences. (80022)

THE AUBURN INDUSTRIAL SERVICES LTD. AWARDS
Established in 1997 by Auburn Industrial Services Ltd. To be awarded to students enrolled in any program who display superior leadership or innovative skills. (80037)

BRANTFORD ALUMNI BRANCH
COMMUNITY CONTRIBUTION AWARDS
Established in 2000 by the Brantford Alumni Branch of the McMaster Alumni Association. A variable number of awards to be granted to students enrolled in any program who demonstrate leadership and innovative skills through participation in either university or community activities. Preference will be given to students from the Brant County area high schools. (80052)

THE ELVA CARROL AWARD
Established in 1996 by Elva Carrol. To be awarded to a student enrolled in any program who demonstrates outstanding athletic participation. Preference to be given to an athlete who participates on an inter-university women's team and has demonstrated leadership and fair play. (80028)

THE EDWARD FRANK DAVIS MEMORIAL AWARD
Established in 1996 by bequest in memory of Edward Frank Davis. A variable number of awards to be granted to students entering any program who have shown commitment and contribution to their community through volunteer work. (80060)

THE DAMIAN MIGUEL HEADLEY AWARDS
Established in 1997 by family and friends in memory of Damian Miguel Headley (Class of ’89). To be awarded to students enrolled in any program who demonstrate one or more of the following: service to McMaster University or the community-at-large, outstanding athletic or artistic participation or display superior leadership or innovative skills. (80050)

THE RUDY HEINZL AWARD
Established in 1996 by family, friends and colleagues upon the retirement of Rudy Heinzl as Dean of Student Affairs, in recognition of 32 years of dedicated service to students and to the McMaster University community. To be awarded to a student enrolled in any program who, in the judgment of a selection committee, has made a significant contribution to the university life of his/her fellow students. (8004)

THE STUART AND MARJORIE IVISON AWARDS
Established in 1997 by Donald Ivison (Class of ’53) and Betty Ivison (Class of ’82) in honour of his parents Stuart and Marjorie Ivison (Class of ’28 Arts). A variable number of awards to be granted to students enrolled in a program in the Department of English and Cultural Studies who demonstrate a lively interest in English/Cultural Studies, involvement in extra-curricular activities and service to the University or community-at-large. (80061)

THE JAMES A. JOHNSON COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the McMaster Social Sciences Society Executive Committee to recognize Dr. James A. Johnson, Dean of Social Sciences (1989-97), for his outstanding service to the Faculty of Social Sciences and the broader campus community. One award to be granted annually to a Social Sciences student enrolled in a program involving Anthropology, Economics, Geography, Gerontology,Labour Studies, Political Science, Psychology, Religious Studies, Social Work or Sociology who, in the judgment of the appropriate selection committee in the Faculty of Social Sciences, has provided outstanding service to McMaster University or the community-at-large. Preference will be given to students whose service has been undertaken within the Faculty of Social Sciences at McMaster University. (80023)

THE JUNIOR LEAGUE OF HAMILTON-BURLINGTON, INC.
COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Junior League of Hamilton-Burlington, Inc. under the McMaster Student Opportunity Fund initiative. To be awarded to a student in any program who has demonstrated service to the community-at-large. (80032)

THE ALEC JOHN ROYSTON MACMILLAN MEMORIAL AWARDS
Established in 1996 by his family in memory of Alec John Royston MacMillan. Three awards to be granted upon completion of Level I: a) one to a student in any program; b) one to a student enrolled in the Faculty of Health Sciences; and c) one to a student enrolled in the Faculty of Engineering, Health Sciences or Science who, in the judgment of a selection committee, demonstrate qualities of innovation, leadership and service to the community through participation in campus and community programs including athletics. (80012)

THE McMaster ATHLETIC COUNCIL AWARD
Established in 1997 by the Men's Athletic Council and the Women's Intercollegiate Athletics Council under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in any program who demonstrates outstanding athletic participation. Preference will be given to students in Level II or higher who exhibit leadership and dedication to sport and prove to be an overall asset to their team(s). (80033)

THE ROBERT JOHN MORRIS AWARDS
Established in 1996 by family, friends and colleagues of Robert John Morris. Six awards: three to be granted to students upon completion of Level I or higher of a program in Engineering, and three to be granted to students upon completion of Level II or higher of a program in Engineering Physics who, in the judgment of the appropriate selection committee in the Faculty of Engineering, have demonstrated leadership or innovative skills in the field of Engineering or, through their participation in campus and community activities, have had a significant influence on the lives of Engineering students at McMaster University. (80024)

THE HELEN K. MUSSALLEN AWARD
Established in 1996 by Dr. Helen K. Mussallem (C.C., B.N., Ed.D., LL.D (Queen's), D.Sc., D.S.I., F.R.C.N., M.R.S.H.) to stimulate interest in professional nursing careers through participation in meetings, conferences, professional associations and societies related to the field of nursing. A variable number of awards granted to students who have completed Nursing I and who, in the judgment of the School of Nursing, have demonstrated notable involvement in extracurricular activities. (80009)

THE ONCOLOGY NURSING PROGRAM AWARDS
Established in 1997 in recognition of the contributions of McMaster students. To be awarded to students enrolled in the Oncology Nursing Program who display superior leadership or innovative skills and demonstrate service to and leadership in students who are working in under-resourced communities and who must travel long distances to participate in the program. (80040)

THE PIONEER GROUP INC. LEADERSHIP AWARDS
Established in 1997 by the Pioneer Group of Companies Inc. in recognition of the community contributions of McMaster students. A variable number of awards to be granted to students enrolled in any program who, in the judgment of a selection committee, have demonstrated leadership and community service. (80025)

THE GORDON AND JANE PRICE AWARDS
Established in 1997 by their sons in honour of Gordon and Jane Price. To be awarded to students in the Arts and Science Program or in the Faculty of Health Sciences who demonstrate service to the community-at-large, outstanding athletic participation or who display superior leadership and innovative skills. (80048)
THE GORDON RAYMOND AWARD
Established in 1996 by the McMaster Association of Part-time Students and other friends and colleagues in honour of Gord Raymond in recognition of his 27 years of service to McMaster University including 15 years as Coordinator of Part-time Degree Studies. To be awarded to the part-time student who, in the judgment of a selection committee, demonstrates enthusiasm for lifelong learning and/ or had an influence on the lives of part-time students. (80011)

THE ROTARY CLUB OF ANCASTER COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Ancaster in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates commendable service to the community-at-large. Preference to be given to a student enrolled in an Environmental Science Program. (80044)

THE ROTARY CLUB OF BURLINGTON CENTRAL COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Burlington Central in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates involvement in extra-curricular or community activities. Preference will be given to a student from the Burlington area. (80041)

THE MEENA AND NARESH SINHA AWARD
Established in 1996 by Meena and Naresh Sinha. To be awarded to a student enrolled in the Faculty of Science who, in the judgment of a selection committee, has demonstrated leadership or innovative skills through participation in either the university and/or community activities. (80014)

THE LORNA AND DAVID SOMERS AWARD
Established in 1997 by Lorna Somers (Class of '81) and David Somers (Class of '88) under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in the Faculty of Humanities who, in the judgment of the School of the Arts, demonstrates superior leadership and innovative skills through participation in the McMaster University community. (80051)

THE STEPHEN F. H. THRELKELD AWARD
Established in 1997 by friends and colleagues of Stephen F. H. Threlkeld. To be awarded to a student entering Level II, III, or IV. (80031)

THE ROTARY CLUB OF HAMILTON A.M. COMMUNITY CONTRIBUTION AWARD
Established in 1997 by the Rotary Club of Hamilton A.M. in keeping with Rotary's mission to foster the ideal of service within the community. To be awarded to a student enrolled in any program who demonstrates outstanding service to the community-at-large. (80042)

THE MEENA AND NARESH SINHA AWARD
Established in 1996 by Meena and Naresh Sinha. To be awarded to a student enrolled in the Faculty of Science who, in the judgment of a selection committee, has demonstrated leadership or innovative skills through participation in either the university and/or community activities. (80014)

THE LORNA AND DAVID SOMERS AWARD
Established in 1997 by Lorna Somers (Class of '81) and David Somers (Class of '88) under the McMaster Student Opportunity Fund initiative. To be awarded to a student enrolled in the Faculty of Humanities who, in the judgment of the School of the Arts, demonstrates superior leadership and innovative skills through participation in the McMaster University community. (80051)

THE ZOOM MEDIA AWARDS
Established in 1997 by Zoom Media Inc. in support of McMaster students. A variable number of awards to be granted to students enrolled in any program who, in the judgment of a selection committee, have demonstrated superior leadership and innovative skills through participation in either university and/or community activities. (80029)
UNDERGRADUATE ACADEMIC AWARDS

An explanation of the terminology used to describe Academic Awards is provided in the sections of the Calendar described below. Please refer to the Glossary section of this Calendar for definitions of Continuing Students, Cumulative Average (CA), Level, Post-Degree Students, Review and Reviewing Period.

Baccalaureate Degrees are those listed in the Degrees and Programs section of this calendar, the abbreviations of which start with the letter B, such as B.A., B.Com. Failures are determined by reviewing period, not by session. They include failures in Extra courses.

Full-time Student for academic purposes is an undergraduate student who is registered in at least 24 units in the Fall/Winter session, including Extra Courses.

Graduate Awards are granted to eligible students on the completion of their graduating session.

In-Course Awards are granted to eligible students, based on academic achievement in other than their graduating session.

Part-time Studies Awards are referred to under Category C. To be eligible for these awards, students must have been registered in at least 50% of all units attempted at McMaster, while fulfilling the University's definition of a part-time student as described in the Glossary section of this Calendar.

Reviewing Period for scholarship purposes, normally refers to work completed during the Fall/Winter session. Please refer to the Glossary section of this Calendar.

Session, for scholarship purposes, refers to the Fall/Winter session. The Fall/Winter session is the period from September to April as defined in the Sessional Dates section of this Calendar.

Sessional Average (SA) is a weighted average based on the grades attained in a session. Overload courses and Extra courses are included in the Sessional Average.

GENERAL CONDITIONS FOR ACADEMIC AWARDS

1. The University Academic Awards listed below are provided exclusively for students entering, registered in, or graduating from baccalaureate degree programs at McMaster University. Continuing Students, Post-degree Students, and students holding four-year, accelerated degrees are not eligible for these awards.

2. To ensure a wide distribution of the limited number of awards, there are restrictions on the number of awards that a student may receive. An eligible student may be granted:
   a) travel scholarships and non-monetary awards such as books and medals; and
   b) an award granted on the basis of an application; and
   c) awards continued from a previous year (including entrance scholarships), except as provided by the particular terms of an award; and
   d) either one (major) award greater than or equal to the value of a Senate Scholarship ($500 2006-2007) and one (minor) award of less than the value of a Senate Scholarship; or two awards of less than the value of a Senate Scholarship; and
   e) an academic grant.

When a student is named the winner of an award but may not receive it because of the conditions listed above, the next eligible student will be granted the award.

3. The monetary benefits of travel scholarships, awards won by graduating students, and awards such as books and medals will be disbursed directly to the student.

4. The monetary benefits of awards, other than those listed in 3. above, will be disbursed only if the recipient is registered in a baccalaureate degree program, or a specific program when explicitly required by the terms of the award, at McMaster University in the next Fall/Winter session after the award was earned and will be credited to the student's University account.

5. Amounts in excess of the student's monetary obligation to the University will be disbursed directly to the student in November or December.

6. Awards credited to the student's University account are not refundable.

7. Students wishing to defer the benefits of an award to a later session (other than an award for entering students) should apply to the Office of Student Financial Aid & Scholarships. Approval of applications is not automatic, and deferments are not normally granted for more than one calendar year.

8. Students holding four-year, full-fees scholarships who choose to accelerate their program and to complete their degree earlier than normal by completing Spring/Sumer session courses and who wish to employ the benefits of their award to defray the academic fees for such courses should apply to the Office of Student Financial Aid & Scholarships. Approval of applications is not automatic.

9. The University reserves the right not to grant an award in the absence of a suitable candidate, and to limit the number of awards when there are too few suitable candidates. The University also reserves the right to withdraw, or amend the terms of, any award, and to suspend granting of an award or to adjust the stated value of an award in years in which insufficient investment income is available due to fluctuations in investment markets.

10. Appeals on the basis of exceptional circumstances must be submitted in writing to the Office of Student Financial Aid & Scholarships. To submit an appeal, students must provide a covering letter outlining the situation and include relevant documentation which might include a letter of support from the Associate Dean/Director of the program and medical documentation if appropriate. The appeal must be submitted to the Undergraduate Council Awards Committee c/o the Awards Officer in the Office of Student Financial Aid & Scholarships.

INDEX OF AWARDS AND ACADEMIC GRANTS

1. Awards for Entering Students (page 364)
2. Awards for In-Course, Graduand, Part-Time and Second Degree Students (page 365)
3. Academic Grants for Full-Time, In-Course Students (page 385)

LISTING OF ACADEMIC AWARDS AND ACADEMIC GRANTS BY FACULTY (page 386)

To find a specific award, use the Index of Awards.
Awards for Entering Students (A)

1. These awards are provided exclusively for those qualifying for admission as full-time students to Level I of a first baccalaureate degree in the Fall/Winter session.

2. A student who has registered at any post-secondary institution after graduation from secondary school will not be considered for an entrance award.

3. Canadian citizens and permanent residents are eligible for any entrance award regardless of where they complete their secondary school education.

4. Students completing their final year of secondary school in Canada are also eligible. International students studying outside Canada are not eligible for these entrance awards.

5. To be considered for an entrance award, students must obtain a minimum final average of 80% or equivalent in the secondary school credits required for University admission to their program of study and must apply for admission to the University not more than two years after completion of their secondary school studies.

6. Final admission average for entrance awards is calculated using the prerequisites for program of study plus the next best Grade 12 U or M courses to a total of six final grades.

7. Registration in, or transfer to, another program of study at any time may result in forfeiture, or adjustment in the value, of the award. Students are advised to consult with the Office of Student Financial Aid & Scholarships and their Faculty Advisors prior to making any changes to their program of study or course load.

8. Students who withdraw or drop below 24 units on or before December 31 will lose their entrance award.

9. Recipients of a renewable entrance award must complete a minimum of 24 units in the Fall/Winter session, obtain a Sessional Average of at least 9.5 with no failures, and register as a full-time student in the subsequent Fall/Winter session in order to retain the next installment of the award.

10. Co-op/Intership students are eligible to retain their entrance award provided they meet the minimum course load requirement for their program of study as defined in the Undergraduate Calendar; however, funding will be deferred until they return to full-time study.

11. Once an entrance award is lost, it will not be reinstated.

12. In addition to meeting the General Conditions, entrance award recipients will begin their studies in the next Fall/Winter session. Students wishing to defer the benefits of an award to a later session should apply to the Office of the Registrar (Admissions) for deferral of both admission and scholarship. Approval of applications is not automatic, and deferrals are not normally granted for more than one calendar year.

Awards for Full-Time, In-Course Students (B)

These awards are based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided exclusively for first baccalaureate degree students registered full-time qualifying on the basis of work included at the May review (or deferred examinations resulting therefrom) in other than graduating session.

2. Students choosing to graduate at the subsequent Fall Convocation will retain the transcript notation and monetary value of any donor-funded awards (e.g. The Accoutant Inc. Scholarship). Recipients of University awards (e.g. Dr. H. L. Hooker Scholarships) will retain the transcript notation but forfeit the monetary benefit of all awards.

3. Students choosing to withdraw after the May review will retain the transcript notation but forfeit the monetary benefit of all awards.

4. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.

5. For students who remain full-time in the Fall/Winter session, a Sessional Average will be computed, which is the weighted average of the grades in all courses taken during that session. The Sessional Average will be used to determine academic standing for the awards listed below, unless otherwise stated in the terms of a particular award.

6. The Sessional Average will be used to break any tie in the competition for awards which are based on another criterion.

7. Co-op/Intership students are eligible for full-time awards provided they meet the minimum course load requirement for their program of study as defined in the Calendar.

8. Students who participate in a formal exchange program are eligible for full-time, in-course awards on the basis of 15 units completed in one term at McMaster. In order to be considered, students should identify themselves to their Faculty by October 15 when they return to full-time study the following Fall/Winter session. Students on exchange for the full year may not be eligible.

Awards for Part-Time, In-Course Students (Part-Time Studies) (C)

The following awards are granted based on competition across the University or within a Faculty or program.

1. These awards, which are granted in November, are provided exclusively for part-time first baccalaureate degree students who have completed a minimum of 18 units and who qualify on the basis of work included at the most recent review in other than their graduating session.

2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.

3. The Cumulative Average will be used to break any tie in the competition for awards which are based on another criterion.

Specific Achievement Awards for Full-Time and Part-Time Students (D)

The following awards are granted based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided for either full-time or part-time first baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom). Students must have completed a minimum of 18 units to be reviewed. Normally, these awards will be granted to In-Course Students. A number of awards under this category are also listed under Category F for Second Degree Students.

2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.

3. The Cumulative Average will be used to break any tie in the competition for these awards which are based on another criterion.

4. An award name ending with an * indicates that the award is open to both full-time and part-time second baccalaureate degree students.

Awards for Graduating Students (E)

The following awards are based on competition across the University or within a Faculty or program.

1. These awards, which are granted in May, are provided exclusively for graduating students qualifying on the basis of achievement in their first baccalaureate degree program.

2. In addition to meeting the General Conditions, a student must obtain:
   a) Cumulative Average of at least 8.0.
   b) no failures in the courses last taken equal to:
      i) either the number of units specified in the Calendar for the final level of their program;
      ii) or, if the Calendar does not specify the program work by individual levels, the final 24 units of work.

Awards for Second Baccalaureate Degree Students (F)

The following awards are granted based on competition across the University or within a Faculty or program.

1. These awards, which are granted in June or November, are provided for either full-time or part-time second baccalaureate degree students qualifying on the basis of achievement during the Spring/Summer or Fall/Winter sessions immediately preceding the May review (or deferred examinations resulting therefrom).

2. In addition to meeting the General Conditions, a student must obtain, at the most recent review, a Cumulative Average of at least 8.0 and no failures.

3. The Cumulative Average will be used to break any tie in the competition for these awards which are based on another criterion.

4. A number of awards in this category are also listed in Category D - Specific Achievement Awards, and are indicated by an asterisk after the award name.
Academic Grants for Full-Time Students (G)
The following awards are granted based on competition within a Faculty or program.
1. Academic Grants are provided exclusively for students registered full-time in a baccalaureate degree program at McMaster University.
2. Students must be taking 24 units or more.
3. The entrance grants will be awarded to students with high admission averages of 80% or greater, and who demonstrated financial need. The greater financial need will be used to break any tie.
4. The in-course grants will be awarded to students with high Sessional Averages of 9.5 or greater with no failures and demonstrated financial need. The greater financial need will be used to break any tie.
5. Two scholarships to be awarded to students entering any Level I study who presents an outstanding final admission average. (20126)

The President's Awards
McMaster University will reward students with high academic standing in their first year of secondary school. Students must obtain a final admission average of 95% or higher to their program of study. No application is required.
Value: $3,000 per year*.
*The President's Award is renewable at the same value provided that students remain full-time (24 units or greater) and achieve a Sessional Average of 80% or greater, with no failures in each year of University study. Awards may be held until graduation or for four years, whichever is less.

The McMaster Honour Awards
McMaster University will reward students with high academic standing in their first year of secondary school. Honor Awards are based on the final admission average to the program of study. No application is required.
- 90 - 94.99% $2,000 per year*
- 85 - 89.99% $1,000 per year*
- 80 - 84.99% $750 per year.*
*The Honour Awards are renewable at the same value provided that students remain full-time (24 units or greater) and achieve a Sessional Average of 9.5 (approximately 80%) with no failures in each year of University study. Awards may be held until graduation or for four years, whichever is less.

McMaster's Awards for Entering Students are supported by the following:
- THE ASHBAUGH SCHOLARSHIPS
  Established in 1959 by bequest of Frederick K. Ashbaugh of St. Petersburg, Florida, in memory of his wife Eliza Kingston. (20140)
- THE A.H. ATKINSON EDUCATION FUND SCHOLARSHIP
  Established in 2001 by the A.H. Atkinson Education Fund. To be awarded to a student entering the Faculty of Engineering. (20141)
- THE CLASS OF 1952 GOLDEN ANNIVERSARY ENTRANCE AWARDS
  Established in 1952 by the Class of 1952 in honour of its 50th reunion. A maximum number of four entrance scholarships to be awarded each year to students entering any Level I program. (20116)
- THE CLASS OF 1956 50TH ANNIVERSARY ENTRANCE SCHOLARSHIPS
  Established in 2006 by the Class of 1956 in honour of its 50th anniversary. Two scholarships to be awarded to students entering any Level I program. (20168)
- THE COCA-COLA SCHOLARSHIPS
  Established in 1998 by Coca-Cola Bottling Ltd. A variable number of scholarships to be awarded to students entering a full-time program of study. (20145)
- THE HELEN M. CURREY SCHOLARSHIP
  Established in 1941 by bequest of Helen Maud Currey of Drumbo, Ontario. To be awarded every four years. (20146)
- THE D'VILLIERS - MAHAFFY MERIT AWARDS
  Established in 1901 in memory of Nina De Villiers and Leslie Mahaffy of Burlington, by contributions from the local community and the employees of several area companies including Sears Canada, Boehringer Ingelheim, Smithkline Beecham, Monsanto and the Royal Bank. Two scholarships to be awarded to students graduating from a secondary school in the Halton Region; (a) one to a student entering a full-time program of study; and (b) one to a student entering full-time study in Science I or Music I. Preference will be given to women students. (20130)

The Dundas Scholarships
Established in 1984 from funds donated anonymously. A variable number of scholarships to be awarded to students from Dundas and surrounding area entering a full-time program of study. (20147)

The H.P. Fri Scholarship
Established in 1982 by the family of H.P. Frid in her memory. To be awarded to a promising student entering a full-time program of study. (20136)

The General Motors Entrance Scholarships
Established in 2001 by the General Motors of Canada Limited. A variable number to be awarded to female students entering the Faculty of Engineering. (20131)

The John Hodgins Memorial Scholarship
Established in 1965 by his wife, Jean, in memory of Dr. John W. Hodgins in recognition of his extraordinary contributions in founding the Faculty of Engineering which he served with distinction as the first Dean. To be awarded to an outstanding student entering the Faculty of Engineering. (20123)

The Nellie P. Hogg Scholarship
Established in 1965 by bequest of Nellie P. Hogg of Hamilton. One scholarship to be awarded to a woman student entering a full-time program of study. (20150)

The Dr. Harry Lyman Hooker Entrance Scholarships
Established in 1981, and resulting from the bequest of Dr. H.L. Hooker. (20151)

The Cathryn E. Kaake Merit Award
Established in 1988 in memory of Cathryn E. Kaake (Class of '78) by family and friends. (20125)

The Raymond C. Labarge Merit Awards
Established in 1990 in memory of Raymond C. Labarge (Class of '36) of Ottawa. (20127)

The Marion Laing-Knox Entrance Scholarship
Established in 2000 by bequest of Marion Laing-Knox. To be awarded to a student entering the Faculty of Humanities in a full-time program of study who presents an outstanding final admission average. (20126)

The Lloyd Memorial Scholarship
Established in 1955 in memory of Henry Hoyes and Lizzie Lloyd by their children. Grade 12 U or M subjects to be included are: Physics, Chemistry, two credits of Mathematics, and either Biology or a third credit of Mathematics. (2015)

The Josephine Magee Scholarship
Established in 1959 by bequest of Josephine Magee of Hamilton. To be awarded on the basis of general proficiency in the subjects required for admission to students from any province or territory of Canada. (20153)

The Albert Matthews Scholarship
Established in 1920. Grade 12 U or M subjects to be included are Latin and a language other than English. (20154)

The Harold Matthews Memorial Scholarship
Established in 1917. Grade 12 U or M subjects to be included are French and either German or Spanish. (20155)

The Isabella Campbell Mcnee Scholarship
Established in 1915 and augmented in 1929. Grade 12 U or M subjects to be included are three credits of Mathematics and Physics. (20156)

The Moultan College Entrance Scholarship
Established in 1980 from funds originally subscribed by the Alumni of Moultan College during the years 1946 to 1949. To be awarded to a woman student entering a full-time program of study. (20157)

The Alvin L. Ogilvie Scholarships
Established in 1984 by bequest of Alvin L. Ogilvie of Hamilton. Five scholarships to be awarded to students entering a full-time program of study. (20138)
THE LILLIAN AND LEROY PAGE SCHOLARSHIP
Established in 1962 by donation of the Lillian and Leroy Page Foundation for a student from the Hamilton area entering the Faculty of Science. (20129)

THE LESLIE A. PRINCE MERIT AWARDS
Established in 1979 in honour of Leslie A. Prince, Dean of Students, by his friends and colleagues upon the occasion of his retirement and in recognition of his outstanding contribution to the University community. Two to be awarded. (20128)

THE A.G. REILLY SCHOLARSHIPS
Established in 1991 by bequest of Lois E. Reilly of Toronto. A variable number of scholarships to be awarded to students entering a full-time program of study. (20158)

THE D.E. THOMSON SCHOLARSHIP
Established in 1979 by bequest of D.E. Thomson, for her outstanding contributions to McMaster University during 46 years of service. To be awarded to an outstanding student entering a full-time program of study. (20160)

THE WALLINGFORD HALL ENTRANCE SCHOLARSHIP
Established in 1993. To be awarded to a student entering a full-time program of study. (20135)

THE WHEELER SCHOLARSHIP
Established in 1915. Grade 12 U or M subjects to be included are English and either Latin or French. (20161)

◆ Music Awards
The Music awards are for one year.

THE JOAN FRANCES BOWLING ENTRANCE SCHOLARSHIPS
Established in 1997 from the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Two scholarships to be awarded to students entering Music I, who in the judgment of the School of the Arts, have demonstrated excellence in classical music. Value: $1,600 each (20056)

THE MERRILL FRANCIS GAGE ENTRANCE SCHOLARSHIP
Established in 1962 from the estate of Merrill Francis Gage of Hamilton. To be awarded to a keyboard student entering Music I who, in the judgment of the School of the Arts, has attained outstanding musical proficiency. Value: $900 (20031)

THE FRANK THOROLFSON MEMORIAL SCHOLARSHIPS
Established in 1978 in memory of Professor Frank Thorolfson, first Chair of the Department of Music. Two scholarships to be awarded to students entering Music I who, in the judgment of the School of the Arts, have attained high scholastic achievement and musical proficiency. Value: $1,000 each (20028)

◆ Other Awards

THE NORTEL NETWORKS ENTRANCE SCHOLARSHIPS
Established in 1999 by Nortel Networks. A variable number of scholarships to be awarded to students entering the Faculty of Engineering. Students must remain registered in the Faculty of Engineering to retain the second installment.

Value: $6,000 each ($3,000/yr) (20120)

THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION ENTRANCE SCHOLARSHIP
Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded, one to a female student and one to a male student, entering the Faculty of Engineering.

Value: $1,000 each (20027)

THE DOMINIC ROSART SCHOLARSHIP
Established in 2002 by Mrs. Patsy Rosart in loving memory of her husband Dominic Rosart, to be awarded to the student entering Level I of a full-time program of study in the Faculty of Health Sciences who has the highest final admission average and is eligible for OSAP or an equivalent provincial student assistance program. Award is tenable for up to four years provided the recipient maintains a Sessional Average of 9.5.

Value: $20,000 ($5,000 per year) (20132)

THE TRANSPORTATION ASSOCIATION OF CANADA FOUNDATION SCHOLARSHIP
Established in 2005. To be awarded to an outstanding full-time student entering the Faculty of Engineering.

Value: $1,000 (20192)

◆ Awards Open to International Students

INTERNATIONAL AWARDS
The following awards are provided exclusively for international students qualifying for admission to Level I of a first baccalaureate degree program.

THE McMASTER CHINESE ALUMNI (TORONTO CHAPTER) INTERNATIONAL ENTRANCE SCHOLARSHIPS
Established in 1999 by Chinese Alumni (Toronto Chapter) of McMaster University. A variable number to be awarded to visa students entering Level I of any program.

Value: $1,000 (20191)

THE McMASTER-HONG KONG FOUNDATION ENTRANCE SCHOLARSHIPS
Established in 2006 by the McMaster University-Hong Kong Foundation Ltd. To be awarded to a student entering Level I of any program who is a permanent resident of Hong Kong and who, in the judgment of a selection committee, has demonstrated outstanding academic performance and potential for future leadership.

Value: $5,000 annually for four years. (20189)

An application is required no later than April 1. Applications are available on-line at http://sfas.mcmaster.ca/

NG MAN-CHUNG MEMORIAL SCHOLARSHIPS FOR INTERNATIONAL STUDENTS
Established in 2000 by Joe Ng Engineering Limited in memory of Joe Ng's father Ng Man-Chung. A variable number to be awarded to visa students entering Level I in Engineering.

Value: $2,000 (20188)

THE WOO FAMILY INTERNATIONAL ENTRANCE SCHOLARSHIPS
Established in 1999 by Mr. Chung How Woo in honour of his late wife, Mrs. Ching Yung Chiu-Woo, mother and mother-in-law of four McMaster graduates. A variable number to be awarded to visa students entering Level I of any program.

Value: $2,000 (20190)

AWARDS FOR IN-COURSE, GRADUAND, PART-TIME AND SECOND DEGREE STUDENTS
No application is required for any award unless noted in the listing of Undergraduate Awards and Academic Grants by Faculty. An award name ending with an * indicates that the award is open to both full-time and part-time second baccalaureate degree students.

THE ACCENTURE INC. SCHOLARSHIP
Established in 1998 by Andersen Consulting. To be awarded to a student entering the final year of study in Engineering, Science or Commerce who, in the judgment of a Selection Committee, demonstrates a strong interest in Management Information Systems and qualities of leadership through service to McMaster University and/or the community in athletic, professional or social organizations.

Value: $350 (20248)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE ACHIEVEMENT AWARDS OF EXCELLENCE
Established in 1998. A variable number of scholarships to be awarded to students who, in the judgment of the Centre for Student Development, give evidence of outstanding academic achievement.

Value: $300 (40085)

Students who wish to be considered for this award must be registered with the Centre for Student Development, Disability Services. The application cover page can be downloaded from the Office of Student Financial Aid & Scholarships web site at http://sfas.mcmaster.ca/downloadcenter.html. Completed applications should be submitted to the Office of Student Financial Aid & Scholarships by April 15th.

THE AOCI (ONTARIO CHAPTER) SCHOLARSHIP
Established in 1992 by the American Concrete Institute (Ontario Chapter). To be awarded to a student entering Level IV of the Civil Engineering program who, in the judgment of the Department of Civil Engineering, has demonstrated outstanding academic achievement and knowledge and concrete technology.

Value: $300 (30215)
THE AIR LIQUEE CANADA INC. SCHOLARSHIPS
Established in 1990 by Air Liquefied Canada. One scholarship is to be awarded to a student in a Level II or III program in Chemical Engineering, Materials Science and Engineering and/or Mechanical Engineering who, in the judgment of the Faculty of Engineering, has demonstrated outstanding academic achievement. The recipient must attain a minimum Sessional Average of 9.5 at the most recent Fall/Winter session.
Value: $1,500 (30246)

THE HENRIETTA ALDERSON SCHOLARSHIP
Established in 2002 in memory of Henrietta Jane Alderson. Two scholarships are to be awarded to students in the B.Sc. program who are entering Level II (A Stream) or Level IV (B and C Streams) and, in the judgement of the School of Nursing, have demonstrated exceptional achievement in required science courses.
Value: $3,150 each (30247)

THE A.G. ALEXANDER SCHOLARSHIPS
Established in 1936 and augmented in 1946 by Sir Douglas Alexander, and members of his family, in memory of Archibald Greg Alexander. A variable number of scholarships are to be awarded to students who have completed Level I and an additional 30 - 75 units on the basis of excellence in an Honours program in the Faculty of Humanities. The purpose of the scholarships is to enable the recipients to study outside Canada during the twelve months prior to the final Fall/Winter session.
Value: $5,500 each (30174)

Travel Scholarship applications are due February 15th.

THE W.K. ALLAN MEMORIAL SCHOLARSHIP
Established in 1994 in memory of William Kellock Allan (Class of '31) by his wife, Yvonne and augmented in 2002 by his family. To be awarded to a student entering the final level of a program in Mathematics or Physics who attains the highest Sessional Average.
Value: $1,100 (30221)

THE CAMERON D. ALLEN BOOK PRIZE
Established in 1978 in memory of Cameron D. Allen. To be awarded to a student in an Honours program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, shows outstanding achievement in studies in a fourth year climatological course. Preference will be given to a graduating student.
Value: $150 for books (40115)

THE ALUMNI ASSOCIATION SCHOLARSHIP
Established in 1974 by the McMaster University Alumni Association and later augmented by bequest of Harold E. Amy. One scholarship is to be awarded to a part-time student who has attained the highest Cumulative Average at the most recent review.
Value: $375 (60000)

THE ALUMNI CANADIAN GEOGRAPHY PRIZE
Established in 1985 by the Geography Branch of the McMaster University Alumni Association in recognition of Dr. Lloyd G. Reeds for his contribution to teaching during more than 35 years of service. To be awarded to the student who attains the highest grade in GEO 2HC3 (Canada).
Value: $300 (40001)

THE AMBASSADOR OF SPAIN BOOK PRIZE
Established in 1983. To be awarded to a graduating student in a program in the Department of Linguistics and Languages who, in the judgement of the Department, has achieved notable proficiency in Spanish.
Value: Book (50002)

THE E.H. AMBROSE GOLD MEDAL
Established in 1971 by Clarkson Gordon in memory of their former Hamilton partner, E.H. Ambrose, member of the University's Board of Governors from 1953 to 1960. Transferred to E.H. Ambrose in 1987. To be awarded to the student in the graduating class of a program in Commerce who, on the basis of scholarship and leadership, is judged to be the outstanding member of the class.
Value: $500 (30014)

THE ANATOMY PRIZE
Established in 1992. To be awarded every other year to a student who has completed Level III (or equivalent), has studied biological structure and who, in the judgment of the Education Program in Anatomy, has demonstrated excellence in Anatomy.
Value: $1,000 and a medal (40008)

THE ANTHROPOLOGY PRIZE
Established in 1982. To be awarded to the graduating student who has completed a program in Anthropology primarily on a part-time basis and who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement.
Value: $500 (50004)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Anthropology by April 15th.

THE HERBERT S. ARMSTRONG MEMORIAL FUND
Established in 1987 in memory of Herbert S. Armstrong. To be awarded to a student who has completed at least 30 units beyond Level I who, in the judgment of the School of Geography and Earth Sciences, has achieved notable academic standing and who has made a significant contribution to university life through extra-curricular activities.
Value: $75 for books (30243)

THE ARTS AND SCIENCE EXPERIENTIAL LEARNING TRAVEL SCHOLARSHIP
Established in 2002 by Arts and Science Alumni. To be awarded to a student who has completed at least Level II of the Honours Arts and Science Program, is currently registered in an Arts and Science Experience Learning course, and who, in the judgment of the Arts and Science Program, has achieved notable academic standing.
Value: $1,000 (30260)

Travel Scholarship applications are due February 15th.

THE ARTS AND SCIENCE PROGRAM BOOK AWARD
Established in 1995. To be awarded from time to time to an Arts and Science student who, in the judgment of the Arts and Science Program Awards Committee, has demonstrated outstanding academic achievement in both arts and science.
Value: $75 (40078)

THE EDGAR R. ASHALL SCHOLARSHIP
Established in 1956 by bequest of his wife, Edith M. Ashall.
Value: $200 for books (30162)

THE A.H. ATKINSON PRIZE
Established in 1980 by Atkinson Engineering Consultants Limited. To be awarded to a student in a Civil Engineering program who achieves the highest average in CIV ENG 3G03 and 3J04, taken in one session.
Value: $200 (30001)

THE ATOMIC ENERGY OF CANADA LIMITED SCHOLARSHIPS
Established in 2001 by Atomic Energy of Canada Limited (AECL). Four scholarships are to be awarded to students who have completed Level I in the Faculty of Engineering and who, in the judgment of the Faculty of Engineering, have demonstrated outstanding academic achievement and quality of leadership at McMaster or in the community.
Value: $2,500 each (30276)

THE AUDCOMP COMPUTER SYSTEMS SCHOLARSHIPS
Established in 2005 by Audcomp computer systems to support the dreams and aspirations of students attending university. To be awarded to a student who has completed Level II or above and who has attained the highest Sessional Average.
Value: $2,000 each (30308)

Note: Scholarships and programs will vary. This year the award will go to a student registered with the Department of Electrical and Computer Engineering.

THE MAQBOOL AZIZ MEMORIAL SCHOLARSHIP
Established in 2001 by family, friends and colleagues in memory of Maqbool Aziz, Professor of English from 1969 to 2000. To be awarded to a student in an English program who attains the highest grade in ENGLISH 2005 (Modern British Literature).
Value: $425 (40105)

THE LAURA BALDWIN SCHOLARSHIP
Established in 2005 from the bequest of Laura Baldwin. To be awarded to a student registered in a program in English who, in the judgment of the Department of English and Cultural Studies, has submitted an original literary work or poem that demonstrates the highest degree of literary excellence.
Value: $500 (30313)

THE CHARLES MURRAY BALL SCHOLARSHIPS IN EARTH SCIENCES
Established in 1991 by Mr. A. Ball in memory of his brother Murray Ball. Four scholarships are to be awarded to students entering Level II, III, IV or V of a B.Sc. program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, have attained notable standing. Ordinarily, not more than one scholarship will be awarded to any one program.
Value: $2,300 each (30162)

THE BANK OF MONTREAL HUMANITIES MULTIMEDIA SCHOLARSHIPS
Established in 1999 by the Bank of Montreal. A variable number of scholarships are to be awarded to students entering Level II, III or IV of the Humanities Combined Honours Multimedia program who, in the judgment of the Department of Communication Studies and Multimedia, have demonstrated outstanding academic achievement in the Humanities Multimedia program or great promise in the area of humanities multimedia.
Value: $1,000 each (30269)
THE J. DOUGLAS BANKIER MEMORIAL SCHOLARSHIP
Established in 1977 in memory of Professor J. Douglas Bankier by his friends, colleagues, and former students. To be awarded to the student who has completed Level I and at least 60 units of an Honours program in the Department of Mathematics and Statistics, who attains the highest Sessional Average and who in that session achieves a grade of at least B in STATS 3D03 and 3D33.
Value: $375 (30306)

THE WILLIAM AND LIDA BARNES MEMORIAL PRIZE IN HISTORY
Established in 1969 by their son, William D. Barns, of Morgantown, West Virginia. To be awarded to the graduate who, in the judgment of the Department of History, has attained notable standing in an Honours History program.
Value: $150 (50050)

THE SCOTT BARTLETT MEMORIAL PRIZE
Established in 1985 in memory of Scott N. Bartlett by his family and friends. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce Program and who, in the judgment of the Faculty of Business, has achieved high standing in COMMERCE 3FA3 and 3FB3, taken in one session.
Value: $200 (3003)

THE M. BANKER BATES SCHOLARSHIP
Established in 1975 by Dr. M. Banker Bates and augmented in 1978 in his memory by his family, friends and colleagues. To be awarded to the student who has completed Level I and an additional 60 - 75 units of a program in Commerce and who attains the highest Sessional Average.
Value: $1,400 (30102)

THE MARION BATES BOOK PRIZE
Established in 1997, Centennial Year, by the Alumnae members of the McMaster Alumni Association in honour of Marion Bates, Dean of Women from 1947 to 1965. To be awarded to a student graduating from an Honours program in History who, in the judgment of the Department of History, has displayed outstanding achievement in Canadian history courses consistently throughout the degree program.
Value: $85 for books (5003)

THE BATES RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30155)

THE BARBARA AND RONALD BAYNE GERONTOLOGY INTERNSHIP AWARD
Established in 2001 by Barbara and Ronald Bayne to provide practical learning experience for Gerontology students. To be awarded to a student who has completed at least Level II in a program in Gerontology and who, in the judgment of the Department of Health, Aging and Society, has demonstrated high academic achievement and qualities of leadership at McMaster or in the community.
Value: $450 (40106)

THE BEALE-LINCOLN-HALL TRAVEL SCHOLARSHIP
Established in 1996 by Arnold A. Beale in memory of his parents F. Arnold Beale and Margaret S. Beale and Mr. and Mrs. Walter Gould Lincoln and Commander Harry H. Hall, U.S.N. To be awarded to students who demonstrate high academic standing and are participating in one of McMaster's formal exchange programs. Preference will be given to students enrolled in a program in Biochemistry, Biology, Chemistry, Commerce, Cultural Studies and Critical Theory, Earth and Environmental Sciences, Engineering Physics, English, French, Geography, History, Materials Science, Mathematics, Modern Languages, Physics or Religious Studies and who demonstrate a lively interest in the humanities and the human and social implications of scientific developments.
Value: $2,200 (30236)

Travel Scholarship applications are due February 15th.

THE BEAUTY COUNSELORS OF CANADA SCHOLARSHIP
Established in 1956 by Beauty Counselors of Canada Limited. To be awarded to the student who has completed Science I with the highest Sessional Average and who is entering Level II of the Honours Biochemistry, or Honours Chemistry program.
Value: $350 (30006)

THE BENTALL SCHOLARSHIPS
Established in 2008 by Dr. C. Howard Bentall (Class of '37) and Dr. Shirley F. Bentall (Class of '38). A variable number of scholarships to be awarded to students in any Faculty who demonstrate outstanding academic achievement.
Value: $1,500 each (30281)

THE LOUISE E. BETTGER SCHOLARSHIPS IN MUSIC
Established in 1982 in memory of Louise E. Bettger of New Hamburg, Ontario, by her nieces and nephews. Three scholarships to be awarded to students in an Honours program in Music who, in the judgment of the School of the Arts, are outstanding: (a) one in the area of choral or vocal music to a student who has completed Music I or an additional 30 - 75 units; (b) one to a keyboard student who has completed Level I and an additional 30 - 75 units; and (c) one to a student who has completed Music I and who has demonstrated overall musical excellence.
Value: $450 each (30097)

THE J.P. BICKELL FOUNDATION MINING SCHOLARSHIP
Established in 2002 by the J.P. Bickell Foundation. A variable number of scholarships to be awarded to students who, in the judgment of the School of Geography and Earth Sciences, demonstrate an interest in the field of mining, and have completed Level II of an Honours Earth and Environmental Sciences, Honours Geoscience or B.Sc. Geoscience program.
Value: $2,000 minimum (30291)

THE BINKLEY MEDAL
Established in 2000 by the University, friends and colleagues of Margaret Beale (nee Binkley) on the occasion of her retirement and for her outstanding contributions to McMaster University during her 43 years of service. To be awarded to a student graduating from an Honours program in Computer Science who has completed the program primarily on a part-time basis and who attains the highest Cumulative Average.
Value: $350 and a medal (50085)

THE BIOLOGY ACHIEVEMENT AWARD
Established in 2004 by the Department of Biology. A variable number to be awarded to students registered in Science I who, in the judgment of the Department of Biology, have achieved the highest standing in BIOLOGY 1A03 or the highest standing in BIOLOGY 1A03.
Value: Book (40113)

THE ABE BLACK MEMORIAL PRIZE
Established in 1982 by friends and colleagues of Dr. A.H. Black in memory of a distinguished member of the Department of Psychology, Neuroscience and Behaviour from 1958 to 1978. To be awarded to the student who, in the judgment of the Department of Psychology, Neuroscience and Behaviour, has demonstrated outstanding achievement in PSYCH 4D06 (Honours Thesis).
Value: $600 (40076)

THE ABE BLACK MEMORIAL PRIZES
Established in 1982 by friends and colleagues of Dr. A.H. Black in memory of a distinguished member of the Department of Psychology, Neuroscience and Behaviour from 1958 to 1978. Three prizes to be awarded: (a) one to the student who attains the highest Cumulative Average in an Honours B.A. program in Psychology; (b) one to the student who attains the highest Cumulative Average in the Honours B.Sc. program in Psychology; (c) one to the student who attains the highest Cumulative Average in the Honours Biology and Psychology (Life Science) program.
Value: $200 each (30000)

THE LEONE BETTY BLACKWELL MEMORIAL BOOK PRIZE
Established in 1999 by Dr. Bonnie Blackwell in memory of her mother, Leone Betty Blackwell. To be awarded to a graduating student with the highest grade in GEO 3P03.
Value: $85 for books (50096)

THE BRIAN BLAKEY MEMORIAL SCHOLARSHIP
Established in 1979 in memory of Dr. Brian Blakey, Professor of French, by his friends, colleagues and former students, on behalf of his wife, Dorothy. To be awarded to the student who attains the highest Sessional Average on completion of Level I and an additional 60 - 75 units of an Honours program in Classics, Cultural Studies and Critical Theory, Theatre & Film Studies, English, French or Linguistics. Students in all programs except Theatre & Film Studies must have achieved a B- in both LINQUIST 1A03 and 1A03.
Value: $500 (30013)
THE HILDA DOROTHY BORMAN SCHOLARSHIP
Established in 1958 by bequest of Hilda Dorothy Borman. To be awarded to a student studying piano who, in the judgment of the School of the Arts, has attained high academic standing.
Value: $1,050 (30245)

THE JOAN FRANCES BOWLING SCHOLARSHIPS
Established in 1997 from the estate of Marie Bowling in memory of her daughter, Joan Frances Bowling. Two scholarships to be awarded to outstanding classical music scholars registered in Level II and above of a Music program and who, in the judgment of the School of the Arts, have demonstrated excellence in Music.
Value: $1500 each (30236)

THE BETTY TAYLOR CAMPBELL SCHOLARSHIP
Established in 1998 by bequest of Mrs. Vera Caskey and Miss Jane Caskey in memory of Elia Halstead Campbell and augmented by Mrs. Edna M. Miller in 1987. To be awarded to a keyboard student, registered in any level of a solo performance course, who is outstanding in the judgment of the School of the Arts.
Value: $200 (30048)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) MEMORIAL PRIZE
Established in 1992 by current and past members of the Canadian Federation of University Women (Hamilton), formerly known as the University Women's Club of Hamilton. To be awarded to the graduating student from a program in Women's Studies who, in the judgment of the Committee of Instruction for Women's Studies, has demonstrated outstanding academic achievement in the Women's Studies component of the program.
Value: $175 (30052)

THE JOSEPHINE STAPLES BRIEN SCHOLARSHIP
Established in 1936 by Dr. J.W. Brien of Windsor. To be awarded to a woman student who is entering her graduating session and who qualifies on the basis of academic standing and interest in undergraduate activities.
Value: $350 for books (30091)

THE ROY C. BRIEN MEMORIAL SCHOLARSHIP IN MATHEMATICS
Established in 1962 by Dr. and Mrs. R.F. Britton and augmented by Mrs. Britton's bequest in 1982. To be awarded to the student who has completed Level I and an additional 29-45 units of an Honours program in Mathematics who, in the judgment of the Department of Mathematics, has demonstrated outstanding academic standing.
Value: $1,200 ($600 each year) (30051)

THE JOAN FRANCES BOWLING SCHOLARSHIPS
Established in 1997 by the Past Presidents of the University Women's Club of Hamilton which became the CFUW (Hamilton) on the occasion of the Club's 50th anniversary. To be awarded to the woman student who has completed Level I and an additional 60 - 85 units of a program in Engineering with the highest Cumulative Average.
Value: $300 (30149)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) RUBY BROWN BOOK PRIZE
Established in 1970 by bequest of Mrs. Edgar Brown. To be awarded to a student in any Level I program for the most creative essay in a Level I English course.
Value: $200 (40046)

THE CANADIAN FEDERATION OF UNIVERSITY WOMEN (HAMILTON) SCHOLARSHIP
Established in 1954 by the University Women's Club of Hamilton, now the Canadian Federation of University Women. To be awarded to the woman student who attains the highest Sessional Average in the penultimate level of any program.
Value: $1,500 (30150)

THE CANADIAN INSTITUTE OF INTERNATIONAL AFFAIRS PRIZE*
Established in 1984 by the Canadian Institute of International Affairs (Hamilton Branch). To be awarded to a student who has completed Level I and at least an additional 30 units of a program in Political Science who, in the judgment of the Department of Political Science, has achieved notable standing in at least six units of International Politics courses including an outstanding essay dealing with a topic related to the field of International Politics.
Value: $300 (40071)

THE CANADIAN INSTITUTE OF STEEL CONSTRUCTION (CISC) AWARD
Established in 2005 by The Canadian Institute of Steel Construction (CISC). To be awarded to a student who attains high standing in CIV ENG 3503 and who, in the judgment of the Department of Civil Engineering, has an interest in steel structure research.
Value: $2,000 (40116)

THE CANADIAN SOCIETY FOR CHEMICAL ENGINEERING PRIZE
Established in 1947 by the Chemical Institute of Canada. To be awarded to the student who is entering his/her final year of study in Chemical Engineering and who attained the highest Sessional Average.
Value: $50, medal and certificate (30016)

THE CANADIAN SOCIETY FOR CHEMICAL ENGINEERING (CSCHE) SCHOLARSHIP
Established in 2004 by the organizing committee of the 2003 CSCHE Annual Meeting. To be awarded to a student entering Level II of a program in the Department of Chemical Engineering who has attained the highest academic standing in Level I.
Value: $500 (30307)

THE CANADIAN SOCIETY FOR CHEMISTRY PRIZES
Established in 1947 by the Chemical Institute of Canada. Two awards to be made to students who are entering their final year of study: (a) one to a student in an Honours program in Chemistry or Honours Applied Chemistry who attained high standing in Chemistry; (b) one to a student in the Honours Biochemistry or Honours Chemistry programs who attained high standing in biochemistry and organic chemistry.
Value: Medal and certificate (30017)
THE CANADIAN SOCIETY OF CIVIL ENGINEERS (HAMILTON SECTION) PRIZE
Established in 1957. To be awarded to a student entering the final level of a program in Civil Engineering who, in the judgment of the Department of Civil Engineering and Engineering Mechanics, has demonstrated participation in extracurricular activities and has attained high academic standing.
Value: Plaque (30018)

THE EZIO CAPPADOCIA MEDAL
Established in 1986 by Professor E. Cappadocia on the occasion of his retirement from the Department of History. To be awarded to a student graduating from an Honours program in History who, in the judgment of the Department of History, has displayed outstanding achievements and has contributed to the Department's activities.
Value: Medal (50018)

THE NANCY CAR MEMORIAL SCHOLARSHIP IN KINESIOLOGY
Established in 2001 in loving memory of Kinesiology student Nancy Car. To be awarded to a student entering Level IV of Kinesiology who, in the judgment of the Faculty of Social Sciences, has attained notable academic standing and demonstrated leadership at McMaster University or in the community.
Value: $400 (30277)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Kinesiology by April 15th.

THE GRACE DOROTHY AND WILLIAM P. CARPENTER AWARD
Established in 2001 by the Hamilton Community Foundation. To be awarded to a student entering Level II in Mechanical Engineering who, in the judgment of the Department of Mechanical Engineering, demonstrates outstanding academic achievement. Preference will be given to a student who has graduated from a publicly funded secondary school in the Hamilton or Burlington area.
Value: $1,500 (50012)

THE JAMES ROBERTSON CARRUTHERS MEMORIAL PRIZE *
Established in 1954 in memory of James Robertson Carruthers (Class of '74) by his family and friends. To be awarded to the student who, in the judgment of the Department of History, attains notable standing in HISTORY 2R03 and 2R3 (United States History).
Value: $425 (40025)

THE NORMAN N. CASKEY MEMORIAL PRIZE
Established in 1963 by Mrs. Verna Caskey and Miss June Caskey in memory of husband and father. To be awarded to a student who has completed Music I or Level I and an additional 30 - 75 units of an Honours program in Music and who, in the judgment of the School of the Arts, has demonstrated musical excellence.
Value: $150 (30115)

THE CHEMICAL INSTITUTE OF CANADA (HAMILTON SECTION) PRIZES
Established in 1947 by the Hamilton Section. Two prizes to be awarded to students who have completed Level I and an additional 29 - 36 units: (a) one to a student in an Honours program in Chemistry who, in the judgment of the Department, shows particular promise in Chemical Engineering; and (b) one to a student in a program in Chemical Engineering who, in the judgment of the Department, shows particular promise in Chemical Engineering.
Value: $150 each (30202)

THE CIM INTERNATIONAL OUTREACH TRAVEL AWARD
Established in 2006 by Michael P. Smith and CIM Limited. To be awarded to a student in the Bachelor of Health Sciences (Honours) program who will be taking HTH SCI 3H03 in the following summer or in the following Fall/Winter session, and who will be travelling and working in underdeveloped, disadvantaged areas outside of Canada. The student must demonstrate contributions to the betterment of life through special initiatives.
Value: $1,000 (30316)

Travel Scholarship applications are due February 15th. A 500-word essay on the value of the experience in meeting the stated personal learning goals established by the student is required. Students should build into their learning goals a presentation to an external group after the travel is completed.

THE CITY OF HAMILTON ECONOMIC DEVELOPMENT DEPARTMENT SCHOLARSHIPS
Established in 1976. (a) Two scholarships to be awarded on the basis of Sessional Average to students entering Level II of a Commerce program.
Value: $775 each (six awards) (30064)

(b) Four scholarships to be awarded on the basis of Sessional Average: two to students who have completed Level I and an additional 30 - 45 units, and two to students who have completed Level I and an additional 60 - 75 units of a program in Commerce. Recipients must have obtained all their secondary school education in the Hamilton-Wentworth Region.
Value: $1,950 (30068)

THE CLASS OF '37 TRAVEL SCHOLARSHIP IN ARTS AND SCIENCE
Established in 1989 by Hugh Clark in celebration of McMaster's fiftieth year since moving to Hamilton. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in Social Sciences and attains the highest Sessional Average.
Value: $1,300 (30175)

Travel Scholarship applications are due February 15th.

THE CLASS OF '43 GOLDEN ANNIVERSARY SCHOLARSHIP
Established by the Class of '43 in celebration of their 50th anniversary. To be awarded to the student who has completed Level I and at least an additional 60 units of an Honours program in Theatre & Film Studies who, in the judgment of the School of the Arts, has achieved notable academic standing and has made a significant contribution to theatre on campus.
Value: $950 (30214)

THE CLASS OF '44 SCHOLARSHIP
Established by the Class of '44 in celebration of their 50th anniversary. To be awarded to the student entering the penultimate year of any program who has attained the highest Sessional Average.
Value: $1,500 (30224)

THE CLASS OF '50 SCHOLARSHIP IN HONOURS ECONOMICS
Established in 1982 by members of the Class of 1950 who graduated in Honours Economics. To be awarded to the student who has completed at least Level II of an Honours program in Economics, and who, in the judgment of the Department of Economics, has attained a high Sessional Average and has demonstrated leadership in undergraduate extracurricular activities.
Value: $700 (30027)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Economics by April 15th.
THE CLASS OF 1953 50TH ANNIVERSARY SCHOLARSHIP
Established by the Class of 1953 in honour of its 50th reunion. A variable number of scholarships to be awarded to students in Level II and above in a program in Arts and Science who, in the judgment of the Arts and Science Program, have attained high academic standing and demonstrated community involvement.
Value: $1,500 (30264)

THE CLASS OF ’92 SCIENCE LEGACY AWARD
Established by the 1992 graduating class of the Faculty of Science. To be awarded to a graduating full-time student who, in the judgment of the Faculty of Science, has demonstrated notable academic achievement; contributed to the program, and participated in extra-curricular activities during his/her time at McMaster.
Value: $1,000 (50091)

THE CLASSICS PRIZE
Established in 1978 by Professor D.M. Shepherd. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Classics and who, in the judgment of the Department of Classics, shows most promise.
Value: $100 (30028)

THE DENTON COATES MEMORIAL SCHOLARSHIP
Established in 1982 in memory of Denton E. Coates (Class of ’70) by his friends. To be awarded to the graduate student in the judgment of the Department of Materials Science and Engineering, has demonstrated outstanding achievement in independent research as exemplified by the senior thesis in MATLS 4K04.
Value: $275 (50013)

THE COMPARATIVE LITERATURE PRIZE *
Established in 1988. To be awarded to a student in an Honours program in Comparative Literature who, in the judgment of the Comparative Literature Program, has achieved notable standing in Level II.
Value: $250 (40008)

THE CONSUL GENERAL OF ITALY BOOK PRIZE IN ITALIAN *
Established in 2003 by the Istituto Italiano di Cultura as Cultural Section of the Consulate General of Italy. To be awarded to a student in an honors program in the Department of Linguistics and Languages who attains the highest grade in a Level I course in Italian.
Value: $150 for books (40110)

THE ELIZABETH PETRA COOKE MEMORIAL SCHOLARSHIP
Established in 2006 in memory of Elizabeth Petra Cooke, B.Sc.N. (Class of ’03). To be awarded to a student in a Post R.N. or Post R.P.N. program who, in the judgment of the School of Nursing, has demonstrated a commitment to the advancement of the nursing profession and/or to mentoring nurses as they further their education.
Value: $1,000 (40120)

THE BEATRICE CORRIGAN MEMORIAL BOOK PRIZE
Established in 1980 in memory of Professor Beatrice Corrigan by her friends and colleagues. To be awarded to the student who has completed at least nine units beyond Level I and who, in the judgment of the Department of Linguistics and Languages, has achieved notable standing in Italian.
Value: $125 (40004)

THE CRANSTON PRIZES *
Established in 1958 by William H. Cranston of Midland in honour of his parents, J. Herbert Cranston (Class of ’05) and Eva Wilkins Cranston (Class of ’07). Two prizes to be awarded for excellence in the study of Canadian literature: (a) one for the highest grade in ENGLISH 2G06, and (b) one for the highest grade in ENGLISH 2E03.
Value: $175 each (40011)

THE DEGroote School of Business ALUMNI UNDERGRADUATE SCHOLARSHIP
Established in 2004 through the generosity of the DeGroote School of Business alumni and friends. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has achieved high academic standing in commerce courses and has displayed leadership and self-motivation in extracurricular activities.
Value: $2,000 (30207)

THE D.M. DAVIES PRIZE
Established in 1984 by friends, colleagues, and former students in recognition of Professor Douglas Davies for his outstanding contribution to the Department of Biology during 24 years of service. To be awarded to a student who has completed Level I and at least an additional 60 units of an Honours program in Biology and who attains the highest average in at least 12 units of senior level courses in whole-animal biology, taken in one session.
Value: $575 (40099)

THE DEAN’S MEDAL FOR EXCELLENCE IN THE HUMANITIES
Established in 2000 by Donald T. Belzner (Class of ’52). Three prizes to be awarded to the graduating students who, in the judgment of the Faculty of Humanities, have demonstrated outstanding academic achievement.
Value: $5,000 (1st and a medal (50083))
$3,000 (2nd and a medal (50093))
$2,000 (3rd and a medal (50094))

THE LAURA DODSON PRIZE
Established in 1990 in memory of Professor Laura Dodson (Class of ’60) by the Faculty of Business. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has achieved high academic standing in COMMERCE 1E03, ECON 1B03 and 1BB3, and has demonstrated leadership ability through school activities, work and/or community involvement.
Value: $800 (30309)

THE ROSEMARY DOUGLAS-MERCER MEMORIAL PRIZE
Established in 1966 in memory of Rosemary Douglas-Mercer by her parents, J. Herbert Cranston (Class of ’05) and Eva Wilkins Cranston (Class of ’07). To be awarded to the student registered in Honours Biology (Genetics Specialization) who obtains the highest grade in BIOLOGY 2C03.
Value: $400 (40119)

THE D.M. DAVIES PRIZE
Established in 1984 by friends, colleagues, and former students in recognition of Professor Douglas Davies for his outstanding contribution to the Department of Biology during 24 years of service. To be awarded to a student who has completed Level I and at least an additional 60 units of an Honours program in Biology and who attains the highest average in at least 12 units of senior level courses in whole-animal biology, taken in one session.
Value: $575 (40099)

THE JOHN DEERE LIMITED SCHOLARSHIP
Established in 1992 by John Deere Limited. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement in courses offered by the Human Resource/Labour Relations Area and has displayed leadership and self-motivation in extracurricular activities.
Value: $2,000 (30207)

THE DEGroote School of Business ALUMNI UNDERGRADUATE SCHOLARSHIP
Established in 2004 through the generosity of the DeGroote School of Business alumni and friends. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has achieved high academic standing in COMMERCE 1E03, ECON 1B03 and 1BB3, and has demonstrated leadership ability through school activities, work and/or community involvement.
Value: $2,000 (30207)

THE LAURA DODSON PRIZE
Established in 1990 in memory of Professor Laura Dodson (Class of ’60) by the Faculty of Business. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program who, in the judgment of the Faculty of Business, has achieved high academic standing in COMMERCE 1E03, ECON 1B03 and 1BB3, and has demonstrated leadership ability through school activities, work and/or community involvement.
Value: $800 (30309)

THE ROSEMARY DOUGLAS-MERCER MEMORIAL PRIZE
Established in 1966 in memory of Rosemary Douglas-Mercer by her parents, J. Herbert Cranston (Class of ’05) and Eva Wilkins Cranston (Class of ’07). To be awarded to the student registered in Honours Biology (Genetics Specialization) who obtains the highest grade in BIOLOGY 2C03.
Value: $400 (40119)
THE DUBECK BIOCHEMISTRY AWARD
Established in 2004 by Dr. Michael Dubeck, B.Sc. (Class of '51) and M.Sc. (Class of '52). To be awarded to a student who has completed Level I and an additional 58 - 75 units of an Honours program in Biochemistry who, in the judgment of the Department of Biochemistry and Biomedical Sciences, has achieved notable academic standing and has an interest in pursuing an academic career in basic biochemical research. Value: $1,000 (30306)

THE DUBECK CHEMISTRY AWARD
Established in 2004 by Dr. Michael Dubeck, B.Sc. (Class of '51) and M.Sc. (Class of '52). To be awarded to a student who has completed Level I and an additional 58 - 75 units of an Honours program in Chemistry who, in the judgment of the Department of Chemistry, has achieved notable academic standing and has an interest in pursuing an academic career in basic chemical research. Value: $1,000 (30304)

THE HORACE A. DULMAGE PRIZE IN PHILOSOPHY
Established in 1976 in honour of Professor Horace A. Dulmage by his colleagues and friends upon the occasion of his retirement from McMaster University. To be awarded to the full-time student in Level II of an Honours program in Philosophy who attained the most notable standing in his or her Level I program. Value: $200 (30066)

THE JOAN JACKSON DUNBAR TRAVEL SCHOLARSHIP
Established in 1960 by Mayor Lloyd D. Jackson (Class of '09), LL.D (Class of '55) and Mrs. Jackson of Hamilton in memory of their daughter, Joan (Class of '40). To be awarded to a woman student who has completed Level I and an additional 80 - 75 units of an Honours program in English for excellence in the work of the program (with emphasis on English). The winner must have secured all her secondary school education in Canada. The award is to be used for study and travel in the United Kingdom and Continental Europe during the vacation before the final Fall/Winter session. Value: $3,675 (30177)

Travel Scholarship applications are due February 15th.

THE EDWARDS HALL RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session. Value: $750 (30156)

THE CLARA I. ELMAN SCHOLARSHIPS
Established in 2002 by Clara I. Elman (Class of '46), faculty member of the School of Nursing from 1949 to 1953. A variable number of scholarships to be awarded to students who have completed Level II in a program in Nursing who, in the judgment of the School of Nursing, demonstrate academic excellence and a commitment to the patient-nurse relationship. Value: $1,000 each (30289)

THE HELEN EMMY SCHOLARSHIPS IN ENVIRONMENTAL SCIENCE
Established in 1890 by Miss Helen Emery of Barrie, Ontario. Two scholarships to be awarded to students in Level II, III, IV or V of a B.Sc. program in the School of Geography and Earth Sciences who, in the judgment of the School of Geography and Earth Sciences, demonstrate leadership and influence in addressing environmental matters. Recipients must have attained a Sessional Average of 9.5 or greater. Value: $1,650 each (30184)

THE MURRAY AND ELEANOR ENKIN MIDWIFERY AWARD
Established in 2005 by Dr. Murray Enkin and his wife, Eleanor Enkin to reflect their belief in the importance of midwifery within Canadian maternity care. One scholarship to be awarded to a graduating student in the Midwifery program who, in the judgment of the Midwifery program, exemplifies superior achievement in the humanitarian, professional and academic domains of midwifery practice. Value: $5000 (50098)

THE ENVIRONMENTAL ISSUES PRIZE
Established in 1993 by the Regional Municipality of Hamilton-Wentworth in recognition of Metal Recovery Industries and Philip Environmental, Industrial Filter Fabrics Ltd., and Landraw Waste Systems. To be awarded to the student who attains the highest grade in GEO 4R05. Value: $100 (40070)

THE GABRIELE ERASMI TRAVEL SCHOLARSHIP TO ITALY
Established in 2003 by the Dante Alighieri Society of Hamilton, the Department of Linguistics and Languages, the Julian-Dalmatians of Hamilton, and friends, in honour of Dr. Gabriele Erasmi, distinguished Faculty member of the Department of Linguistics and Languages. To be awarded to an outstanding student who has completed Level II of a Humanities program. The purpose of the scholarship is to assist with the expenses of travel and study in Italy for academic credit at McMaster University. The applicant must submit a plan of study for approval by the Department of Linguistics and Languages. Value: $900 (30292)

Travel Scholarship applications are due February 15th.

THE EUROPEAN HISTORY PRIZE
Established in 1986 by Professor Ezio Cappadocia, on the occasion of his retirement from the Department of History, in memory of his mentor, Professor Frank H. Underhill. To be awarded to a student graduating from an Honours program in History who, in the judgment of the Department of History, has displayed outstanding achievement in European history courses consistently throughout the degree program. Value: $100 (50017)

THE JOHN P. EVANS TRAVEL SCHOLARSHIP
Established in 1991 by many friends, colleagues, students and graduates of McMaster University as a tribute to John (Jack) P. Evans upon his retirement as Associate Vice-President, University Services and Secretary of the Board of Governors in recognition of his 25 years of outstanding contribution to the University Community. To be awarded to a student who has completed at least 30 units beyond Level I of an Honours program with notable academic standing and has demonstrated a scholarly interest in some aspect of Asian languages, history or cultures, with preference being given to a student wishing to study in China. Value: $1,500 (30193)

Travel Scholarship applications are due February 15th.

THE FACULTY OF SOCIAL SCIENCES INQUIRY AWARD
Established in 2000 by the Faculty of Social Sciences INQUIRY 1SS3 instructors, recipients of the President's Awards of Excellence in course design 2000-2001. To be awarded to the student who attains the highest standing in INQUIRY 1SS3. Value: $500 (40091)

THE FEDERATION OF CHINESE CANADIAN PROFESSIONALS EDUCATION FOUNDATION SCHOLARSHIPS
Established in 1986 by the Foundation. Two scholarships to be awarded: (a) one to a student in a program in Arts and Science, and (b) one, on a rotating basis, to a student in a program in Chemistry, Mechanical Engineering, and Physics. Value: $1,000 each (30163)

THE BARBARA M. FERRIER SCHOLARSHIP IN ARTS AND SCIENCE
Established in 2000 by students in the Arts and Science Program, on the occasion of Dr. B.M. Ferrier's retirement. One scholarship to be awarded to a graduating student in a B.A Arts (Honours) program who, in the judgment of the Arts and Science Program, has demonstrated outstanding achievement in both the Arts and Sciences as well as exceptional leadership and service to the University community. Value: $500 (50069)

THE NEIL FORSYTH PRIZE*
Established in 1992 by The Steel Founders' Society of America in honour of Neil Forsyth, president of the organization in 1990 and 1991, in recognition of his outstanding service to the steelcastings industry. To be awarded to the student who attains the highest grade in MATL 3E04. Value: $120 (40067)

THE BARBARA FRANCIS SCHOLARSHIP
Established in 1985 by Laura Dodson (Class of '56) in memory of her sister. To be awarded to the student who has completed Level I and at least an additional 30 units of an Arts and Science program and who has demonstrated outstanding achievement in both arts and science. Value: $400 (30007)

THE HAROLD AND GERTRUDE FREEMAN SCHOLARSHIP IN FRENCH
Established in 1981 by members of the Class of '43 as a grateful tribute to Harold A. and Gertrude Freeman, Professor Freeman was honorary president of the Class of '43 and was a long-time teacher of French at McMaster University. To be awarded to the student returned from completing Level III abroad as part of the Humanities Study Abroad Program and entering the final session of an Honours program in French who, in the judgment of the Department of French, has attained the highest level of accomplishment in knowledge of French language, literature and culture. The recipient must obtain a Cumulative Average of at least 8.0 and no failures in the review at the end of the Fall/Winter session immediately prior to entering the Humanities Study Abroad Program. Value: $1,000 (30054)
THE FRENCH GOVERNMENT BOOK PRIZES
To be awarded from time to time to in-course students for proficiency in Level I French.
Value: Book (40017)

THE KLAUS FRITZ MEMORIAL PRIZE
Established in 1980 by friends of Professor K. Fritz. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours Chemistry program with the highest Sessional Average.
Value: $350 (30096)

THE MERRILL FRANCIS GAGE SCHOLARSHIPS
Established in 1982 from the estate of Merrill Francis Gage of Hamilton. Two scholarships to be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours program in Music and who, in the judgment of the School, has demonstrated excellence in performance on a keyboard or orchestral instrument.
Value: $450 each (30110)

THE SAMUEL GELLER MEMORIAL BOOK PRIZE
Established in 1999 by Libby Geller in memory of her husband Samuel Geller (Class of '33). To be awarded to a student who has completed Level III of an Honours Program in History and who, in the judgment of the Department of History, has attained notable academic standing.
Value: $425 for books (30261)

THE R. LOUIS GENTILCORE PRIZE
Established in 1989 by the family and friends of Professor R. Louis Gentilcore on the occasion of his retirement from the Department of Geography. To be awarded to a student in an Honours program in the School of Geography and Earth Sciences who, in the judgment of the School, has demonstrated exceptional achievement in historical-cultural geography.
Value: $550 (40062)

THE GWEN GEORGE AWARD
Established in 1997 in loving memory of Gwen George by her family and friends. To be awarded to a student who has completed any Level I program who, in the judgment of a Selection Committee, has achieved notable academic standing and has demonstrated qualities of leadership, and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities. The scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0.
Value: $4,500 ($1,500 each year) (30240)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE GWEN GEORGE MEDAL
Established in 2001 in loving memory of Gwen George by her family. To be awarded to a part-time student who has completed at least Level I of any program and who, in the judgment of the McMaster Association of Part-time Students, has achieved notable academic standing and has demonstrated qualities of leadership, and service to McMaster University and/or the Hamilton-Wentworth, surrounding or world communities.
Value: $400 and a medal (50011)

Students who wish to be considered for this award must submit an application to the McMaster Association of Part-time Students by September 15th.

THE GERMAN EMBASSY BOOK PRIZE
To be awarded from time to time for in-course students for proficiency in Level II or III German.
Value: Book (40018)

THE J.L.W. GILL PRIZES
Established in 1944 by bequest of J.L.W. Gill, B.A., Principal of Hamilton Technical School. Nine scholarships to be awarded on the basis of Cumulative Averages to students who have completed Level I and an additional 58 - 75 units of Honours B.Sc. programs. Ordinarily, not more than one scholarship will be awarded in any one discipline.
Value: $325 each (30079)

THE GILMOUR MEMORIAL PRIZE
Established in 1927 by Year '27, in memory of Dr. Joseph Leeming Gilmour, Honorary President of their first year in 1923, and subsequently enlarged by their children. To be awarded to the student who attains the highest standing in RELIG ST 2G03 or 2H13.
Value: $125 (40019)

THE GEORGE P. GILMOUR MEMORIAL SCHOLARSHIP
Established in 1987 by the Graduating Class of 1962 in honour of Dr. G.P. Gilmour (Class of '21), Chancellor of McMaster University from 1941 to 1950 and President and Vice-Chancellor from 1950 to 1961. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in the Arts and Science Program and who, in the judgment of the Arts and Science Program Admissions, Awards, and Review Committee, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in extracurricular activities.
Value: $325 (30058)

THE GUPTA FAMILY INTERNATIONAL SCHOLARSHIPS
Established in 2005 by K. K. Gupta in memory of his late wife, Mrs. P.K. Gupta, and devoted to the pursuit of excellence in the fields of science and technology. Two scholarships to be awarded to a student who has completed Level I and an additional 30 - 45 units of an Honours program in Chemistry who, in the judgment of a Selection Committee, has achieved an average of at least A-.
Value: $1,500 (30311)

THE ROBERT S. HAINES MEMORIAL SCHOLARSHIP
Established in 2002 by Margaret E. Haines in memory of her twin brother Robert Samuel Haines (Class of '44). To be awarded to a student graduating from an Honours program in Chemistry who attains the highest Cumulative Average.
Value: $1,000 (50097)
UNDERGRADUATE AWARDS — IN-COURSE, GRADUAND, PART-TIME AND SECOND DEGREE

THE AMELIA HALL GOLD MEDAL
Established in 1885 by members of the Class of '38 in recognition of Amelia Hall (Class of '38). D. Litt. (Class of '75), one of the great pioneers of Canadian theatre and a consummate actress, who performed on Canadian stage, screen, radio and television for 35 years. To be awarded to a graduating student who, in the judgment of the School of the Arts, has made a significant contribution to drama during the student's University career. (50030)

THE RUTH AND JACK HALL PRIZE
Established in 1983 by Jackie MacDonald in memory of her parents. To be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours program in Computer Science, or Level I and an additional 69 - 90 units of a program in Computer Engineering, and who attains the highest Sessional Average. Value: $225 (30131)

THE RONALD K. HAM MEMORIAL PRIZE
Established in 1971 in memory of Professor R.K. Ham by his friends and colleagues. To be awarded to the student who has completed Level I and at least an additional 50 units and who, in the judgment of the Department of Materials Science and Engineering, shows most promise as a materials scientist or engineer. Value: $125 (30128)

THE HAMILTON AND DISTRICT HEAVY CONSTRUCTION ASSOCIATION SCHOLARSHIPS
Established in 1992 by the Hamilton and District Heavy Construction Association. A maximum of two scholarships to be awarded to students who, in the judgment of the Department of Civil Engineering, have demonstrated outstanding academic achievement and who have attained a grade of at least A- in CIV ENG 3M03. Value: $500 (30294)

THE HAMILTON CHEMICAL ASSOCIATION PRIZE
Established in 1953 by the Trustees of the Hamilton Chemical Association in memory of Dean C.E. Burke. To be awarded to the student who has graduated from a Commerce program who, in the judgment of the Faculty of Business, has made a significant contribution through extra-curricular activities to the benefit of McMaster University or the local community. Value: $140 (30063)

THE HAMILTON INDUSTRIAL SCHOLARSHIPS
Established in 1958. Value: $800 each (30165)

THE HAMILTON PORT AUTHORITY SCHOLARSHIP
Established in 1994 by the Commissioners in recognition of outstanding Canadian students who continue their studies at McMaster University. To be awarded to a student who has completed Level I and an additional 30 - 45 units of an Honours program in Chemistry and who attains the highest Cumulative Average. Value: $1,550 (30043)

THE HAMILTON UTILITIES CORPORATION ENERGY CONSERVATION AND ALTERNATIVE ENERGY UNDERGRADUATE SCHOLARSHIP
Established in 2003 by the Hamilton Utilities Corporation to encourage excellence in research in the areas of energy conservation and alternative energy. To be awarded to a student who has completed at least Level I of any program in which, in the judgment of the McMaster Institute of Energy Studies, has demonstrated excellence in research in energy conservation or alternative energy. Value: $1,500 (30030)

THE DONALD HART SCHOLARSHIP
Established in 1985 by Mrs. Pamela Hart and Joel Jordan in honour of Donald Neil Hart (Class of '70). To be awarded to a student who has completed Level I and an additional 60 - 75 units of a program in Commerce who, in the judgment of the Faculty of Business, has demonstrated outstanding academic achievement and involvement in the local community. Value: $1,275 (30227)

THE HEDDEN HALL RESIDENCE SCHOLARSHIP
Established in 1999 by the Commissioners in recognition of outstanding academic standing and demonstrated involvement in University or community activities and outstanding athletic ability. This scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0. Value: $7,500 ($2,500 each year) (30256)

THE HAWKRIGG FAMILY SCHOLARSHIPS IN KINESIOLOGY
Established in 1999 by the Hawkrigg Family. To be awarded to a student who, in the judgment of the Department of Kinesiology, has attained notable academic standing and demonstrated involvement in University or community activities and outstanding athletic ability. This scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 8.0. Value: $7,500 ($2,500 each year) (30256)

THE ROSE HILL SCHOLARSHIPS
Established in 1999 by the alumnae, faculty and staff of the School of Physical Education and Athletics as a tribute to Professor Rose Hill, long-time teacher, coach and administrator in the School. Two scholarships to be awarded to students who have completed 60 units of the Kinesiology program and who, in the judgment of the Department of Kinesiology, best demonstrate the philosophy of physical education espoused by Professor Hill throughout her career, namely, excellence in scholarship and leadership and participation in sport, dance or fitness. Value: $1,200 each (30130)

THE DR. HARRY LYMAN HOOKER SCHOLARSHIPS
Established in 1985 by the alumni, faculty and staff of the School of Physical Education and Athletics as a tribute to Professor Rose Hill, long-time teacher, coach and administrator in the School. To be awarded to students who have completed 60 units of the Kinesiology program and who, in the judgment of the Department of Kinesiology, has attained notable academic achievement in health sciences and behavioural science courses. The scholarship is tenable for up to three years provided the recipient maintains a Cumulative Average of 9.5. Value: $2,400 ($800 each year) (30293)

THE DR. THOMAS HOBLEY PRIZE
Established in 1936 by bequest of Mrs. A. McNee of Windsor. To be awarded to a woman student on the basis of the Sessional Average obtained in the penultimate level of a program in Economics or Political Science. Value: $300 (30042)

THE DR. HARRY LYMAN HOOKER SCHOLARSHIPS
Established in 1985, and resulting from the bequest of Dr. H.L. Hooker. Awarded for overall academic excellence (Sessional Average of at least 8.5) to students in undergraduate programs, with the exception of those in their graduating session and those retaining scholarships of $1,000 or greater. Each year quotas are established for each Faculty and other academic units in proportion to the number of full-time undergraduate students who obtain a Sessional Average of 9.5 or greater. Value: $1,500 each (30043)

THE BERTRAM OSMER HOOPER SCHOLARSHIP
Established in 1957 by bequest of Isobel F. Hooper. To be awarded in Arts. Value: $250 (30161)

THE NINA LOUISE HOOPER SCHOLARSHIP
Established in 1959 by bequest of Bertram G. Hooper. Value: $500 (30200)

THE HUGHES SCHOLARSHIP
Established in 1993 by Heidi Dickenson-Hughes in memory of her husband Peter Hughes (Class of '65). To be awarded to a student who has completed Level I and an additional 30 - 75 units of the Music program who, in the judgment of the School of the Arts, has displayed outstanding achievement in Music Education. Value: $200 (40069)
THE HUMAN RIGHTS AWARD
Established in 1998 by the Theme School on International Justice and Human Rights. To be awarded to the student who attains the highest grade in POL SCI 3703 or 4006.
Value: $275 for books (40087

THE HUMANITIES MEDALS FOR SPECIAL ACHIEVEMENT
Established by the University in 1982. Up to five medals to be awarded to graduating students in the Faculty of Humanities in recognition of outstanding achievement in scholarship and contributions to the cultural and intellectual life of the University including such areas as the creative and performing arts and faculty government.
Value: Medal (50026)

THE WILLIAM D.G. HUNTER PRIZE
Established in 1995 by family, friends and colleagues in memory of Professor William D.G. Hunter, member of the Department of Economics from 1951 to 1984. To be awarded to the student who achieved the highest standing in ECON 3LL3.
Value: $500 (40080)

THE HURD MEDAL
Established in 1955 by Donald W. Hurd (Class of '49) in memory of his father, Dean William Burton Hurd and augmented in 2003 in his memory by his wife Alice Hurd. To be awarded to a student at graduation for distinguished achievement in an Honours program in which economics is a major field of study.
Value: Medal (50027)

THE PAUL HYPHER PRIZE
Established in 1988 in memory of Paul F. Hypher by his friends and classmates. To be awarded to the student in a program in Commerce who attains the highest standing in COMMERCE 2MA3.
Value: $250 for books (40039)

THE INCO SCHOLARSHIP IN ENVIRONMENTAL SCIENCE
Established in 2000 by Inco Limited. To be awarded to a student entering Level III (or Year IV of a Co-op program) in the Honours Earth and Environmental Sciences program who, in the judgment of the School of Geography and Earth Sciences has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.
Value: $2,000 (30275)

THE INCO SCHOLARSHIP IN MATERIALS ENGINEERING
Established in 2000 by Inco Limited. To be awarded to a student entering Level II of the Materials Engineering, Materials Engineering and Management or Materials Engineering and Society program who, in the judgment of the Department of Materials Science and Engineering has achieved noted academic standing and demonstrated qualities of leadership at McMaster or in the community.
Value: $1,900 (30274)

THE INTERMETCO LIMITED SCHOLARSHIP
Established in 1977. To be awarded to the student who has completed Level I and an additional 60 - 90 units of a program in Mechanical Engineering and who, in the judgment of the Department of Mechanical Engineering, has attained notable standing.
Value: $600 (30027)

THE INTERNATIONS (BONN) BOOK PRIZE
To be awarded from time to time to in-course students for proficiency in German studies.
Value: Book (40024)

THE INTER-RESIDENCE COUNCIL SCHOLARSHIP
Established in 1995 by the McMaster Inter-Residence Council In recognition of the IRC's continued support of the University and its students. To be awarded to a student who has completed at least Level I of any program who, in the judgment of an Awards Selection Committee of Undergraduate Council, has demonstrated notable academic achievement and has demonstrated leadership and influence in residence life.
Value: $400 (30028)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE IODE MEMORIAL SCHOLARSHIP
Established in 2000 with funds from the Paardeburg Chapter and 87th University Battery Chapters of the IODE. To be awarded to a student enrolled in the Bachelor of Health Sciences program who has completed at least Level I and who, in the judgment of the Faculty of Health Sciences, has attained notable academic standing. Preference will be given to a student from a secondary school in Hamilton.
Value: $500 (30285)

THE MUNICIPAL CHAPTER OF HAMILTON, IODE, MURIEL E. SKELTON AWARD
Established in 1944 by the Municipal Chapter of Hamilton, Imperial Order Daughters of the Empire. To be awarded to the student who attains the highest standing in a Level I History course.
Value: $150 (40036)

THE IROQUOIS TROPHY
Established in 1979 by the Department of Mechanical Engineering. To be presented to a graduating mechanical engineer on the basis of academic excellence, participation in campus societies, clubs, or other activities, and general leadership. A replica of the Trophy is permanently held by each winner.
Value: $250 (50028)

THE ITCA COMMUNITY INVOLVEMENT PRIZE
Established in 1982 by Italian Canadian Community Involve Incorporated. To be awarded to the student who has completed at least 36 units beyond Level I of a program in the Department of Languages and Literature and who, in the judgment of the Department, has attained notable standing in at least six units of Italian courses above Level I. The recipient must have graduated from a secondary school in the Hamilton area.
Value: $125 (30070)

THE IVEY SCHOLARSHIP
Established in 1971 by Professor and Mrs. G.S. French in memory of Mr. and Mrs. I.E. Ivey, the parents of Mrs. French. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in Music and who, in the judgment of the School of the Arts, has attained notable standing.
Value: $125 (30074)

THE H.L. JACKSON MEMORIAL SCHOLARSHIP
Established in 1989 in memory of Professor H.L. Jackson by his friends and colleagues. To be awarded to the student who has completed Level I and at least an additional 60 units of an Honours program in Mathematics and Statistics, who in the judgment of the Department has demonstrated achievement in MATH 3A03 and 3X03 taken in the same session.
Value: $425 (40021)

THE BURTON R. JAMES MEMORIAL PRIZE
Established in 1974 by his friends and colleagues in honour of Burton R. James (Class of '39), Controller, 1963-71, Assistant Vice-President - Administration, 1971-73, McMaster University. To be awarded to the student who, in the judgment of the Faculty of Business, has attained an outstanding Cumulative Average in a program in Commerce.
Value: $200 (50008)

THE W. NORMAN JEEVES SCHOLARSHIP
Established in 1967 by the French Section, Department of Romance Languages, in honour of W. Norman Jeeves, Professor of French from 1965 to 1987. To be awarded to a graduate of an Honours program in French who, in the judgment of the Department of French, has demonstrated outstanding academic achievement in the French component of the program.
Value: $475 (50052)

THE HERBERT M. JENKINS PRIZE
Established in 1990 as a tribute to Dr. Herbert M. Jenkins, first Director of Awards and Review Programs at McMaster University. To be awarded to a student in an Arts and Science program whose work, in the judgment of the Arts and Science Program Awards and Review Committee, best reflects scholarship and the spirit of inquiry.
Value: $150 (40096)

THE JENSEN MEDAL
Established in 1989 by friends and colleagues as a tribute to Dr. Doris E.N. Jensen in recognition of her contribution in developing Cooperative Education Programs in the Faculty of Science and her 31 years of service in the wider university community. To be awarded to a student graduating from the Honours Biology and Pharmacology (Co-op) Program who, in the judgment of the Committee of Instruction, demonstrates outstanding academic achievement and excellence in co-op placements.
Value: $800 and certificate (30002)

THE A.I. JOHNSON SCHOLARSHIP
Established in 1977 in memory of Dr. A.I. Johnson by his friends and former colleagues. To be awarded to a student who has completed Level I and an additional 90 - 130 units of a program in Engineering and Management. Award to be based on distinguished academic performance during the student's undergraduate career. Consideration will also be given to noteworthy contribution in extracurricular activities.
Value: $500 and certificate (30002)
THE LAWRENCE AND KATHLEEN MARY JOHNSTON MEMORIAL PRIZE
Established in 1963. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Religious Studies and who attains the highest Sessional Average. Value: $175 (30094)

THE ROBERT H. JOHNSTON UNDERGRADUATE SCHOLARSHIP IN HISTORY
Established in 2005 to honour Bob Johnston’s contribution to undergraduate teaching in history. To be awarded to a student entering Level II of an Honours History program who, in the judgment of the Faculty of Humanities, has achieved the highest Sessional Average in a Level I program. Value: $750 (30318)

THE FRANK E. JONES PRIZE
Established in 1982 in honour of Professor F.E. Jones for his outstanding contributions to the Department of Sociology. To be awarded to the full-time student with the highest cumulative Average in an Honours program in Sociology. Value: $100 (50020)

THE DR. JEAN JONES MEMORIAL SCHOLARSHIP*
Established in 2005 by family and friends in memory of Dr. Jean Jones. To be awarded to a full-time graduating student who attains the highest cumulative average in either the Bachelor of Arts/Bachelor of Social Work or Bachelor of Social Work post-degree program. Value: $500 (50099)

THE DR. RONALD V. JOYCE “AMAZING” GRACE AWARDS
Established in 2003 by Dr. Ronald V. Joyce ’98 in honour of his mother, Grace Joyce. A variable number to be awarded to students in Level II or above of any program who, in the judgment of the selection committee, demonstrate a commitment to community service by volunteering during the academic year with children who have special needs. Preference will be given to those students who volunteer with underprivileged children. Value: $2,500 each (30295)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE DR. RONALD V. JOYCE AWARDS FOR ATHLETES
Established in 2003 by Dr. Ronald V. Joyce ’98. A variable number to be awarded to students who have completed Level I of any program who, in the judgment of a selection committee, have demonstrated outstanding athletic ability as members of a McMaster varsity team which competes in the Canadian Interuniversity Sports (CIS). Students must meet the eligibility requirements of the CIS and Ontario University Athletics (OUA). Not open to students in their graduating year. Value: $2,500 each (40117)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th. Students should submit two reference letters, one academic letter and one non-academic letter from the coach of their varsity team.

THE JURY PRIZE
Established in 1941 by bequest of J.H. Jury of Bowmanville. To be awarded to a student who has completed Level I and an additional 30 - 45 units of the Honours History program and who attains the highest Sessional Average. Value: $1,500 (30093)

THE STANFORD N. KATAMBALA EARTH SCIENCES PRIZE
Established in 1985 by contributions from friends and associates of Stanford N. Katambala, a Year III Honours Geology student from Tanzania, killed in a mine accident in Northern Ontario in September 1964. To be awarded to a student who has completed Level I and an additional 60 - 75 units of the Honours Earth and Environmental Sciences program and who attains high standing. Value: $75 (30143)

THE ERNEST ROBERT MacKENZIE KAY SCHOLARSHIPS
Established in 1999 by Ernest Robert MacKenzie Kay. A variable number to be awarded to students in a program in Biology, Biochemistry or Chemistry who, in the judgment of the Faculty, show outstanding academic achievement. Preference will be given to students who plan to continue their studies after graduation with a practising firm of chartered accountants. Value: $800 each (30254)

THE GERALD L. KEECH MEDAL
Established in 1994 by his friends and colleagues as a tribute to Gerald L. Keech in recognition of his outstanding contributions to McMaster University during his 33 years of service in Computer Science and computer services. To be awarded to the graduating student from a program in Computer Science who attains the highest Cumulative Average. (50089)

THE ROBERT ALAN KENNEDY SCHOLARSHIP
Established in 1999 by Robert Alan Kennedy. To be awarded to any student entering a Level II, III or IV program in the Faculty of Business who, in the judgment of the Faculty, demonstrates outstanding academic achievement. Value: $475 (30243)

THE MARY E. KEYES RESIDENCE SCHOLARSHIP
Awarded to the student with the highestSessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session, who resides in the residence. Value: $750 (30299)

THE GEORGE P. AND LEATHA M. KEYES SCHOLARSHIPS
Established in 1982 by Mrs. Leatha Keys. Three scholarships to be awarded to students who, in the judgment of the Departments of Computing and Software, and of Mathematics and Statistics, have demonstrated outstanding achievement in Honours programs in those Departments: (a) one to a student who has completed Level I and an additional 30 - 75 units of the Computer Science program; (b) one to a student who has completed Level I and an additional 60 - 75 units of a program in Mathematics; and (c) one to a student who has completed Level I and an additional 60 - 75 units of a program in Mathematics and Statistics. Value: $500 each (30057)

THE KARL KINANEN ALUMNI PRIZE IN GERONTOLOGY
Established in 1992 by the Gerontology Alumni of McMaster University in recognition of Karl Kinanen for his leadership in the development of Gerontological Studies at the University. To be awarded to a student graduating from a program in Gerontology who, in the judgment of the Department of Health, Aging and Society, has demonstrated high academic achievement and leadership in community activities. Value: $50 (50064)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

THE KINESIOLOGY PRIZE
Established in 1982. To be awarded to the graduating student who, in the judgment of the Department of Kinesiology, has submitted an outstanding paper or project. Value: $100 (50098)

THE KINESIOLOGY PRIZES
Established in 1982. Two prizes to be awarded to students who have completed the courses in Level III of the Kinesiology program: (a) one to a student who, in the judgment of the Department of Kinesiology, has submitted an outstanding paper or project, and (b) one to the student who has attained the highest average in Kinesiology courses taken in Levels I, II and III. Value: $100 each (40041)

THE KIT MEMORIAL SCHOLARSHIP
Established in 1936 by the Hamilton Branch of the Canadian Women’s Press Club (now the Media Club of Canada, Hamilton Branch) in memory of its brilliant journalist and writer, the first president of the Canadian Women’s Press Club, Kathleen Blake Coleman, widely known on this continent as Kit. To be awarded to a woman student either on completion of Level I and at least an additional 30 units on the basis of journalistic ability or on completion of Level I and an additional 60 - 75 units of an Honours program in English on the basis of Sessional Average. Value: $200 (30095)

THE KPMG SCHOLARSHIP
Established in 1956 by Pettit, Hill and Bertram, Toronto, and continued after amalgamation of firms. To be awarded to an outstanding student on the basis of qualifications and academic record after the completion of Level I and an additional 60 - 75 units of a program in Commerce. Preference will be given to students who plan to continue their studies after graduation with a practising firm of chartered accountants. Value: $350 (30146)

THE RUTH LANDES PRIZE
Established in 1982 in honour of Professor Ruth Landes for her outstanding contributions to the Department of Anthropology. To be awarded to the graduating full-time student in a three-Level program in Anthropology who, in the judgment of the Department of Anthropology, has demonstrated outstanding academic achievement. Value: $100 (50048)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Anthropology by April 15th.
THE LATIN PRIZE *
Established in 1987 by Dr. John B. Clinard. To be awarded to a student who, in the judgment of the Department of Classics, has demonstrated notable achievement in LATIN 1203 and 1223.
Value: $150 (40034)

THE GARY LAUTENS MEMORIAL SCHOLARSHIP
Established in 1992 by family, friends and colleagues in memory of Gary Lautens (Class of ’50), columnist and editor of the Toronto Star (1962-92), the Hamilton Spectator (1950-62) and the McMaster Silhouetted (1948-50), remembered as a journalist with wit and insight. To be awarded to a student who has completed any Level I program who, in the judgment of a Selection Committee, has achieved notable academic standing and has demonstrated journalistic skills in the written media. The scholarship is tenable for up to two years provided the recipient maintains a Cumulative Average of 8.0. Students who wish to be considered for this award should consult the Office of Student Financial Aid & Scholarships. Value: $4,000 ($2,000 each year) (00212)

THE MAPS AWARD 
Established in 1987 by Albert Litkowski (Class of ’78) and Richard Litkowski (Class of ’86) in honour of their father. To be awarded to a full-time student graduating from an Honours program in Political Science who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.
Value: $750 (50032)

THE ALLAN LUDBROOK MEMORIAL SCHOLARSHIP
Established in 2004 by the family and friends of Allan Ludbrook (‘04). To be awarded to a mature student enrolled in a Music program who, in the judgment of the School of the Arts, has attained notable standing.
Value: $1,000 (40114)

THE MACGIBBON SCHOLARSHIP *
Established in 1970 by bequest of Professor Duncan A. MacGibbon (Class of ’08). To be awarded to the student in a program in Economics who, in the judgment of the Department of Economics, stands highest in courses in economic history.
Value: $475 (40034)

THE LINGUISTICS PRIZE
Established in 1988. To be awarded to a student in an Honours program in Modern Languages and Linguistics who, in the judgment of the Department of Linguistics and Languages, has achieved notable standing in Level II courses in Linguistics.
Value: $250 (40032)

THE WILLIAM LAWSON MEMORIAL SCHOLARSHIP
Established in 1957 by the East Hamilton Independent Labour Party C.C.F. Club in honour of William Lawson. To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in courses in labour economics.
Value: $175 (40048)

THE JAMES B. LAWSON SCHOLARSHIP
Established in 1999 by a grateful student and friend of Professor Lawson. To be awarded to a student who has completed either GERMAN 1206 or 1223 in Level I or to a student who has completed GERMAN 2223 in Level II and who, in the judgment of the Department of Linguistics and Languages, has demonstrated progress and interest in German. Eligibility for this award is restricted to non-native speakers of German. The award may be used for travel and study in a German-speaking country and/or for other expenses associated with the student’s German studies.
Value: $150 (40090)

THE RAY LAWSON SCHOLARSHIPS
Established in 1975 by the Honourable Ray Lawson, O.B.E., D.C.L., D.Cn.L., LL.D., K.G.S.J., Lieutenant-Governor of Ontario from 1946 to 1952. Two scholarships are to be awarded for the highest Sessional Averages in an Engineering Management program: (a) one to a student who has completed Level I and an additional 70-90 units, and (b) one to a student who has completed Level I and at least an additional 109 units beyond Level I.
Value: $275 each (30126)

THE SAKARKHANU K. LILA MEMORIAL SCHOLARSHIP *
Established in 2000 by the children and grandchildren of the late Sakarkhanu K. Lila, mother of ten. To be awarded to a full-time student who has completed Level II of the Midwifery Program and who, in the judgment of the Midwifery Program, has demonstrated academic excellence, leadership and social awareness. Preference will be given to students who have registered for or completed an overseas clinical placement in a developing country.
Value: $1,000 (40093)

THE CLAUDE G. LISTER SCHOLARSHIP
Established in 1950 by bequest of Pauline Detwiler Lister in memory of her husband. To be awarded to a student in a program in the School of Business.
Value: $625 (30199)

THE FELIKS LITKOWSKI MEMORIAL PRIZE IN POLITICAL SCIENCE
Established in 1987 by Albert Litkowski (Class of ’78) and Richard Litkowski (Class of ’86) in honour of their father. To be awarded to a full-time student graduating from an Honours program in Political Science who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement.
Value: $750 (50032)

THE LATIN PRIZE
Established in 1977 in memory of Professor William MacKenzie by his friends and colleagues. To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in either ECON 3T03 (Economic Development: Agriculture and Population) or ECON 2F03 (Globalization and Economic Development) or, in exceptional circumstances, for work in a related area.
Value: $425 (40034)

THE BETTY MacMILLAN PRIZE
Established in 1960 by her classmates in memory of Elizabeth Johnstone, MacMillan (Class of ’50). To be awarded to the student who has completed Level I and at least 60-75 units in an Honours program in Sociology and who, in the judgment of the Department of Sociology, is the most promising student.
Value: $150 (30010)

THE AGNES AND JOHN MacNEILL MEMORIAL PRIZE
Established in 1946 by bequest of Annie May MacNeill (Class of ’03). To be awarded to the student graduating from an Honours program in English who has attained the most notable standing in English throughout the degree program.
Value: $200 (50001)

THE CATHARINE MacNEILL PRIZE
Established in 1946 by bequest of Annie May MacNeill (Class of ’03). To be awarded to a woman student in her graduating year who has attained notable standing in scholarship and has shown qualities of leadership.
Value: $175 (50011)

THE SCHOLARSHIP
Established in 1986 by the McMaster Association of Part-Time Students (MAPS). To be awarded to a part-time student who, in the judgment of MAPS, ranks highest in qualities of scholarship and leadership.
Value: $500 and a medal (60010)

THE MAPS CENTENNIAL AWARD
Established in 1998 by the McMaster Association of Part-Time Students (MAPS). To be awarded to a part-time student who, in the judgment of MAPS, ranks highest in qualities of scholarship and leadership.
Value: $500 and a medal (60010)

THE MAPS GOLD MEDAL
Established in 1996 by the McMaster Association of Part-Time Students. To be awarded to the graduating student completing studies primarily on a part-time basis and who attains the highest Cumulative Average. (50076)
THE LIANNE MARKS SCHOLARSHIP
Established by her family, in 1980 as a bursary and in 1985 as a scholarship, in honour of Lianne Marks, a student at McMaster University (1977-80). To be awarded to a student who has completed Level I and an additional 60-75 units of an Honours program in Sociology and who, in the judgment of the Department of Sociology, has demonstrated outstanding academic achievement and has made notable contribution to the campus or community by participation in activities other than sports.
Value: $125 (40015)

Students who wish to be considered for this award are encouraged to submit a resume to the Department of Sociology by April 15th.

THE ELEANOR DORNBLUSH MARPLES PRIZE IN ART HISTORY *
Established in 1985 by Mrs. Barbara Niedermeier and her family in memory of her sister. To be awarded to a student who, in the judgment of the School of the Arts, has demonstrated outstanding achievement.
Value: $175 (40016)

THE ELEANOR DORNBLUSH MARPLES PRIZE IN THEATRE & FILM STUDIES *
Established in 1987 by Vaughan W. Marples in memory of his wife. To be awarded to the student who attains the highest grade in THTR&FLM 2C03.
Value: $125 (40015)

THE RONALD E. MATERICK SCHOLARSHIPS
Established in 1987 by Ronald E. Materick (Class of '70). Four scholarships to be awarded to students who have completed at least Level II in a Civil Engineering program, who are continuing in an undergraduate Civil Engineering program and who, in the judgment of the Department of Civil Engineering, have attained notable academic standing. Preference, for two of the scholarships, is to be given to students in the penultimate year of a Civil Engineering program.
Value: $2,000 each (30127)

THE MATTHEWS HALL RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30157)

THE JOHN MAYBERRY SCHOLARSHIPS
Established in 1998 by John Mayberry. One scholarship to be awarded to a student who has completed Level II or III of a program in Chemical Engineering, Mechanical Engineering or Materials Engineering who, in the judgment of the Faculty of Engineering, have demonstrated outstanding academic achievement. The recipients must attain a minimum Sessional Average of 9.5 at the most recent Fall/Winter session.
Value: $1,000 (30262)

THE CHARON BURKE McCAIN MEMORIAL SCHOLARSHIP
Established in 2004 in memory of Charon Burke McCain by family, friends, colleagues and students. To be awarded to an Honours Arts and Science student who has completed Level III and who, in the judgment of the Arts and Science program, has demonstrated exceptional qualities of leadership and service at McMaster University or in the community, as well as notable academic achievement.
Value: $500 (30304)

THE WILLIAM J. MCCALLION SCHOLARSHIPS
Established in 1984 in honour of Professor McCallion, B.A. (Class of '43), M.A. (Class of '46), first Dean of the School of Adult Education from 1970 to 1978, in recognition of his outstanding contribution to adult education and to the Department of Mathematical Sciences during 41 years of service. A variable number to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.
Value: $250 each (60004)

THE ESTHER McCANDLESS MEMORIAL PRIZE
Established in 1984 by friends and colleagues in memory of Professor E.L. McCandless, a humanitarian and distinguished member of the Department of Biology from 1964 to 1983. To be awarded to a student who achieves an outstanding Cumulative Average in an Honours program in Biology.
Value: $300 (50004)

THE JOHN R. MCCARTHY SCHOLARSHIP
Established in 1987 by John R. McCarthy, LL.D. (Class of '65), former Deputy Minister of University Affairs and Deputy Minister of Education for the Province of Ontario. To be awarded to a student graduating from a program in Arts and Science, Humanities, Science, or Social Sciences who, in the Faculty of Education of an Ontario university in the academic session immediately following graduation. The student selected will have made a contribution to the life of the University by displaying leadership in student government or student affairs and leadership and sportsmanship in athletic endeavors.
Value: $200 (50016)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE H.W. McCREADY PRIZE IN BRITISH HISTORY *
Established in 1981 in memory of Professor H.W. McCready, a member of the Department of History from 1943 to 1975, by former students, colleagues, and friends. To be awarded to the Level II student who, in the judgment of the Department of History, attains notable standing in HISTORY 2M03 or 2M13.
Value: $100 (40022)

THE MCGREGOR-SMITH-BURR MEMORIAL SCHOLARSHIP
Established in 1910 by the Class of 1912 in Arts, in memory of their classmates, Percy Neil McGregor, Lee Wilson Smith and George William Burr, and supplemented in 1944 by bequest from Professor R. Wilson Smith, father of Lee Wilson Smith. To be awarded to the student who has completed Level I and an additional 60-75 units of the Honours English and History program and who has the highest Sessional Average.
Value: $525 (30105)

THE R.C. MClVOR MEMORIAL SCHOLARSHIP
Established by the Faculty of Social Sciences in 1982 in recognition of Professor R.C. McIvor, former Dean of the Faculty, for his outstanding contributions to the Faculty and the University during 35 years of service. To be awarded on the recommendation of the Faculty of Social Sciences to the full-time student in the graduating class who, on the basis of scholarship, is judged to be the outstanding member of the class of Social Sciences graduands.
Value: $750 (30201)

THE A.G. Mckay PRIZE IN CLASSICAL STUDIES
Established in 1990 by Professor Emeritus A.G. McKay. To be awarded to a graduating student from a Classics program who, in the judgment of the Department of Classics, has demonstrated outstanding academic achievement and leadership.
Value: $100 (50054)

THE ALEXANDER GORDON MCKAY SCHOLARSHIP
Established in 1990 by friends and colleagues of Professor A.G. McKay, first Dean of the Faculty of Humanities from 1968 to 1973, to mark his retirement after 33 years of service at McMaster University. To be awarded to a student who has completed Level I and an additional 60-75 units of an Honours Classics program who, in the judgment of the Department of Classics, has attained high academic standing. Preference will be given to students from the Regional Municipality of Hamilton-Wentworth.
Value: $350 (30180)

THE JANET MCKNIGHT AWARD *
Established in 1994 by faculty, friends and students in memory of Janet McKnight, beloved colleague and teacher, a recognized expert in educational methodology and small-group, problem-based learning. To be awarded to a student entering Level IV of a program in Nursing who, in the judgment of the School of Nursing has demonstrated notable academic achievement and leadership in clinical and educational aspects of gerontology or, problem-based, self-directed learning in nursing education.
Value: $600 (40077)

THE A.B. MCCLAY SCHOLARSHIP IN PHYSICS
Established in 1991 by C. Lucy McCLay in memory of her late husband, A. Boyd McClay (Ph.D., F.R.S.C.), a member of the Department of Physics from 1930 to 1967. To be awarded to a student who has completed Level I and an additional 30-45 units of an Honours program in Physics and Astronomy, who, in the judgment of the Department of Physics and Astronomy, has attained notable standing.
Value: $500 (30185)

THE BOYD MCCLAY SCHOLARSHIP IN PHYSICS
Established in 1977 to commemorate the contributions of Dr. A. Boyd McClay (Class of '22) to teaching and research in optics and spectroscopy at McMaster University from 1930 to 1967. To be awarded to a student who has completed Level I and an additional 60-75 units of an Honours program in Physics with a high Sessional Average.
Value: $575 (30011)

THE WALTER SCOTT MCCLAY PRIZE
Established in 1936 in memory of Dean McClay, by his daughter, Mrs. R.R. McLaughlin (Majorie McClay Class of '25) and further enlarged in 1950 by A.H. Wilson of Woodstock. To be awarded to the student who attains the highest Cumulative Average in an Honours program in English.
Value: $250 (50057)
THE McMASTER NURSING ALUMNI MEMORIAL PRIZE
Established in 1984 and augmented in 2001 by the McMaster Nursing Alumni Branch to recognize graduates from the McMaster University School of Nursing. To be awarded to a student who in the judgment of the School of Nursing, has demonstrated leadership while participating in undergraduate activities.
Value: $300 (50092)

THE McMASTER UNIVERSITY FUTURES FUND GRADUAND AWARD
Established in 2000. To be awarded to the child of a member of McMaster University's salaried pension plan who has demonstrated outstanding academic achievement. Recipient must obtain a Sessional Average of 9.5 or greater.
Value: $1,000 (50084)

THE McMASTER UNIVERSITY FUTURES FUND IN-COURSE AWARDS
Established in 2000. Four scholarships to be awarded to the children of members of the McMaster University salaried pension plan who have demonstrated outstanding academic achievement. Recipient must obtain a Sessional Average of 9.5 or greater.
Value: $1,000 each (30270)

THE McMASTER UNIVERSITY RETIREES ASSOCIATION SCHOLARSHIP
Established in 1991 by the McMaster University Retirees Association. To be awarded to the part-time student enrolled in a program in Gerontology who attains the highest Cumulative Average.
Value: $250 for books (60007)

THE McMASTER UNIVERSITY RETIREES ASSOCIATION SCHOLARSHIP
Established in 1997 by the McMaster University Retirees Association to a student enrolled in a Civil Engineering program who achieves the highest average in CIV ENG 2C04 and ENGI 2E04 taken in one session.
Value: $250 (40100)

THE MMG-NEOSID CANADA LIMITED CERAMIC ENGINEERING PRIZE
Established in 1978 by MMG-Neosid Canada Limited. To be awarded to a student in an Honours program in Ceramic Engineering who achieves the highest average in CIV ENG 2C04 and ENGI 2E04 taken in one session.
Value: $1,000 (30108)

THE MERRIAM SCHOOL OF MUSIC SCHOLARSHIP
Established in 2000. Four scholarships to be awarded to the children of McMaster University's salaried pension plan who has demonstrated outstanding academic achievement. Recipient must obtain a Sessional Average of 9.5 or greater.
Value: $1,000 each (30270)

THE MJ. MILLER PRIZE
Established in 1984 by friends, colleagues and former students in recognition of Professor J.J. Miller for his outstanding contribution to the Department of Biology during 37 years of service. To be awarded to a student in an Honours Biology program with a minimum grade of A- in BIOLOGY 2E03.
Value: $575 (30707)

THE MMG-NEOSID CANADA LIMITED CERAMIC ENGINEERING PRIZE
Established in 1978 by MMG-Neosid Canada Limited. To be awarded to a student who has completed Level I plus at least an additional 30 units of a program in Ceramic Engineering who obtains the highest average in CIV ENG 2C04 and ENGI 2E04 taken in one session.
Value: $250 (40100)

THE MOFFAT FAMILY PRIZES
Established in 1990 by Moffat Kinoshita Associates Inc. Two prizes to be awarded: (a) the student who attains the highest grade in GEO 4HY3; and (b) the student who attains the highest grade in GEO 4HY2.
Value: $150 each (40060)

THE MOLSON SCHOLARSHIP IN ENVIRONMENTAL STUDIES
Established in 1992 by the Molson Companies Donations Fund. To be awarded to the student entering the final level of a program in Geography and Environmental Studies, Earth and Environmental Sciences or Engineering and Society, who attains the highest Sessional Average.
Value: $1,100 (30213)

THE E.S. MOORE PRIZE
Established in 1956 by Elwood S. Moore, LL.D. (Class of '55). To be awarded to the student graduating in an Honours program in Geography who in the judgment of the School of Geography and Earth Sciences, has attained the most notable standing in Geo.
Value: $225 (50016)
THE JOHN F. MOORE PRIZE
Established in 1990 by the Steel Founders’ Society of America in honour of John Moore’s contributions to the Society over the past 25 years. To be awarded to the student who attains the highest grade in MATLS 4C03.
Value: $125 (40061)

THE MICHAEL J. MORTON MEMORIAL BOOK PRIZE
Established in 1979 in memory of Dr. M.J. Morton. To be awarded to a student who has completed Level I and an additional 60 - 75 units in an Honours program in Chemistry and who, in the judgment of the Department of Chemistry, is outstanding in the field of inorganic chemistry.
Value: $175 for books (30111)

THE ELIZABETH MOSGROVE SCHOLARSHIP
Established in 1959 by bequest of John W. Mosgrove in memory of his mother. To be awarded to descendants of members of Her Majesty’s Canadian Armed Forces on the basis of Sessional Average.
Value: $1,500 (30047)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE MOTOROLA SOFTWARE ENGINEERING SCHOLARSHIP
Established in 1999 by the Motorola Foundation. To be awarded to a student entering Level III in a Software Engineering program who, in the judgment of the Department of Computing and Software, has achieved notable academic standing, displayed strong communication skills, demonstrated leadership and involvement in extra-curricular activities.
Value: $1,500 (30252)

THE MOULTON COLLEGE SCHOLARSHIPS
Established in 1957 from funds originally subscribed by the Alumnae of Moulton College during the years 1946 to 1949 for the expansion of Moulton College. Two scholarships to be awarded to the women students of Moulton Hall with the highest Sessional Averages: (a) one after completion of Level I and an additional 30 - 45 units, and (b) one after completion of Level I and an additional 60 - 75 units.
Value: $1,000 each (30112)

THE MOULTON HALL RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30239)

THE ANNE MURRAY SCHOLARSHIP
Established in 1985 in memory of Anne M. Murray (Class of ’52) by her family. To be awarded to a student who has completed at least 30 units beyond Level I in a program in the Department of Linguistics and Languages and who, in the judgment of the Department, has attained notable standing in at least nine units of German courses above Level I.
Value: $300 (30005)

THE ELAINE NARDOCCHIO MEMORIAL SCHOLARSHIP FUND
Established in 1998 by family, colleagues and many friends in memory of Dr. Elaine Nardocchio, a professor for over 25 years at McMaster University. Chair of the Department of French from 1990 to 1993 and President of the Canadian Federation for the Humanities from 1994 to 1996. To be awarded to an undergraduate student enrolled in a French program who, in the judgment of the Department of French, has shown a strong interest in computer skills as applied to the Humanities.
Value: $250 (40101)

THE NATIONAL ASSOCIATION OF CORROSION ENGINEERS PRIZE
Established in 1989 by the Toronto Section of the National Association of Corrosion Engineers. To be awarded to the graduate who, in the judgment of the Department of Materials Science and Engineering, has submitted an outstanding thesis or project in the area of Corrosion Science and Engineering. In the absence of a qualified candidate, the award will be made to the student who attains the highest standing in MATLS 4D03 (Corrosion).
Value: $100 (50036)

THE P.L. NEWBIGGING PRIZES
Established in 1982 in recognition of Dr. Lynn Newbigging for his outstanding contributions to the Department of Psychology, Neuroscience and Behaviour. Four prizes to be awarded to students with the highest Cumulative Average: (a) one to a full-time student in the three-level B.A. program in Psychology; (b) one to a student in a B.A. program in Psychology who has completed the program primarily on a part-time basis; (c) one to a full-time student in the three-level B.Sc. program in Life Science with a concentration in Psychology; and (d) one to a student in a B.Sc. program in Life Science with a concentration in Psychology who has completed the program primarily on a part-time basis.
Value: $100 each (50040)

THE P.L. NEWBIGGING SCHOLARSHIP
Established in 1994 by family, friends and colleagues in memory of Dr. P.L. Newbigging, founding Chair of the Department of Psychology. Neuroscience and Behaviour and member of the Faculty from 1955-1990, in recognition of his outstanding contributions to the Department and the University. To be awarded to the student entering Level II of an Honours program in Psychology who has attained the highest average in PSYCH 1A03 and 1AA3.
Value: $375 (40072)

THE ALAN G. NEWCOMBE PRIZE IN PEACE STUDIES
Established in 1991 in memory of Dr. Alan G. Newcombe (1923-1991), who devoted 30 years to Peace Studies and was co-founder, with Dr. Hanna Newcombe, of the Canadian Peace Research and Education Association and the Peace Research Institute - Dundas. To be awarded to a student who, in the judgment of the Coordinating Council of the Centre for Peace Studies, demonstrates leadership in extracurricular endeavors and high academic achievement.
Value: $300 (40064)

THE NIEMEIER SCHOLARSHIP
Established in 1938 and augmented in 1952 by Dr. O.W. Niemeier. To be awarded to the student who attains the highest Sessional Average at the completion of Level I and an additional 31 - 55 units of the Nursing program.
Value: $1,100 (30114)

THE ROBERT NIXON SCHOLARSHIP
Established in 1991 by the Brant-Haldimand Liberal Association in honour of Dr. Robert Nixon (Class of ’50, LL.D., ’76). To be awarded to a student who, in the judgment of the Department of History, has demonstrated academic excellence and an active involvement in community life.
Value: $575 (30203)

THE NORTEL NETWORKS SCHOLARSHIPS IN INFORMATION TECHNOLOGY
Established in 1999 by Nortel Networks. Ten scholarships to be awarded to students entering a program in Electrical Engineering, Computer Engineering, Software Engineering, Engineering Physics or Computer Science.
Value: $1,000 each (30257)

THE DERRY NOVAK SCHOLARSHIP
Established in 1984 by the Political Science alumni and colleagues in honour of Professor Derry Novak. To be awarded to the student in a Political Science program who, in the judgment of the Department of Political Science, has achieved high standing in Level III courses in political theory or political philosophy.
Value: $650 (40112)

THE FREDERIC P. OLSEN BOOK PRIZE
Established in 1974 in memory of Professor F.P. Olsen by his family, friends and former colleagues. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Chemistry and who, in the judgment of the Department of Chemistry, shows particular promise as an experimental scientist.
Value: $150 for books (30053)

THE ONTARIO ASSOCIATION OF SOCIAL WORKERS PRIZES
Established in 1966 and augmented in 1992 by the Hamilton Branch. Two prizes to be awarded to the graduating students, one first degree and one second degree, who successfully completes SOC WORK 4D06 and attains the highest grade in SOC WORK 4D06 in the same session.
Value: $125 each (50037)

THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION GOLD MEDAL
Established in 1961 by the Ontario Professional Engineers Foundation for Education. To be awarded to the graduate of a program in Engineering who attains the highest Cumulative Average.
Value: (50005)

THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION IN-COURSE SCHOLARSHIPS
Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students with the highest Sessional Average in the Faculty of Engineering: one to be awarded to a student after completion of Engineering I and 35 - 90 units. Value: $1,000 each (50006)

THE ONTARIO PROFESSIONAL ENGINEERS FOUNDATION FOR EDUCATION UNDERGRADUATE SCHOLARSHIPS
Established in 1961 by the Ontario Professional Engineers Foundation for Education. Two scholarships to be awarded to students in the Faculty of Engineering who, in the judgment of the Faculty of Engineering, have demonstrated leadership and involvement in extracurricular activities and high academic achievement.
Value: $1,000 each (40109)
The Connie O'Shaughnessy Memorial Prize
Established in 1988 by family, friends and associates of Connie O'Shaughnessy (Class of '88), a part-time student who chose to return to complete her degree on a full-time basis. To be awarded to a student who has completed Level I and an additional 29 - 60 units who, in the judgment of the Selection Committee for Part-Time Awards; has made a significant contribution to the University life of part-time students. Value: $425 (40009)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

The Gladys Ballantyne Parker Prize
Established in 1953 in memory of Gladys Ballantyne Parker by her father, Harry Ballantyne. To be awarded to the student enrolled in a program in Classics who, in the judgment of the Department of Classics, demonstrates outstanding achievement in Greek or Latin. Value: $50 (30060)

The F.W. Paulin Scholarship
Established in 1961 by the Canadian Engineering and Contracting Co. Limited in honour of its founder. To be awarded to a student who has completed Level I and an additional 73 - 85 units of the Civil Engineering program, or Level I and an additional 110 - 130 units of the Civil Engineering and Management program. Award is based on scholarship Sessional Average of at least 5.5 and evidence of leadership, self-motivation, and practical aptitude appropriate for a future in the construction industry. Value: $1,500 (30052)

The Irene Pearce Scholarship
Established in 1994 by Centenary United Church of Hamilton in honour of Irene Pearce, organist and choir director for fifty-four years. To be awarded to a student who has completed Music I or 30-78 units of an Honours Music Program who, in the judgment of the School of the Arts, has attained notable academic standing and demonstrated excellence in keyboard performance. Value: $675 (30222)

The Harry L. Penny Prize
Established in 1984 in recognition of Professor Harry L. Penny, founding Director of the School of Social Work, for his outstanding contribution to the School. To be awarded to the student with the highest Cumulative Average in a Social Work program. Value: $100 (50023)

The Pevensen Scholarship
Established in 1987 by David C. Hannaford (Class of '64). To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Economics and who, in the judgment of the Department of Economics, has attained notable academic standing. Value: $600 (30120)

The Tony Pickard Memorial Scholarship

The Pioneer Group Inc. Gerontology Prizes
Established in 1988 by the Pioneer Group Limited. Two prizes to be awarded to a student who is employed full-time in Gerontology and who has completed a program in Gerontology. (a) one to a full-time student and (b) one to a part-time student, each of whom is employed full-time in Gerontology. Value: $400 (40068)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

The Pioneer Group Inc. Prize
Established in 1990. To be awarded to a student in a Gerontology program who, in the judgment of the Department of Health, Aging and Society, has achieved notable academic standing, and demonstrates practical aptitude for a career in health care of the elderly. Value: $400 (40058)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

The Pioneer Group Inc. Prizes in Nursing
Established in 1989 by the Pioneer Group Limited in conjunction with the R. Samuel McLaughlin Centre for Gerontological Health Research. Two prizes to be awarded to students graduating from the Nursing program who, in the judgment of the School of Nursing, have achieved notable standing and demonstrated practical aptitude for a career in the health care of the elderly. Value: $150 (50056)

The Pioneer Group Inc. Scholarship
Established in 1998. To be awarded to students who have completed Level I and at least an additional 30 units of a program in Gerontology and who, in the judgment of the Department of Health, Aging and Society, have achieved high standing in 12 units of Gerontology courses (excluding GERONT1A03) and who demonstrate leadership in the field of Gerontology. Value: $1,000 each (30121)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

The Pitcher-Ratford Awards
Established in 2000 by Bruce Ratford (Class of '71) and Erda Ratford (Pitcher) (Class of '71). Two scholarships (one to a male and one to a female) to be awarded to students who have completed Level III of an Honours Geography program and who, in the judgment of the School of Geography and Earth Sciences, have achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community. Value: $500 each (30273)

The Brian Pocknell Memorial Scholarship
Established in 2004 in memory of Brian Pocknell. To be awarded to an undergraduate student who has completed Level II in a French program and, in the judgment of the Department of French, has achieved notable academic standing. Value: $500 (30052)

The Political Science Honours Essay Prize
Established in 1982. To be awarded to the student who in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement in POL SCI 4206. Value: $100 (50059)

The Political Science Prize
Established in 1982. To be awarded to a graduating student who has completed a program in Political Science primarily on a part-time basis and who, in the judgment of the Department of Political Science, has demonstrated outstanding academic achievement. Value: $200 (50042)

The Bill Prestwich Scholarship
In Medical and Health Physics
Established in 2003 by friends, colleagues and students in recognition of Bill Prestwich and his career as a teacher and researcher. To be awarded to a student entering Level II of the Medical and Health Physics program with the highest Sessional Average in any Level I program. Value: $500 (30030)

The Pricewaterhousecoopers Scholarships
Established in 2000 by Pricewaterhousecoopers. Two scholarships to be awarded to students entering Level II of the Honours Commerce program enrolled in COMMERCE 3AB3 and 3AC3 who, in the judgment of the School of Business, have achieved notable academic standing in COMMERCE 2AA3 and 2AB3, and demonstrated qualities of leadership at McMaster or in the community. Value: $2,500 each (30271)

The Provost's Honour Roll Medal
Established in 2005. To be awarded to students named to the Provost's Honour Roll. Value: Medal (30314)

The Psychology Society Prizes
Established in 1965 by the Psychology Society and the Faculty and Alumni of the Department of Psychology. Neuroscience and Behaviour. Three prizes to be awarded to students who have completed Level I and an additional 60 - 75 units with the highest Sessional Average: (a) one in the Honours Psychology B.A. program; (b) one in the Honours Psychology B.Sc. program; and (c) one in a combined Honours program in Psychology. Value: $70 each (30123)

The Dr. John A. Pylypiuk Scholarship
Established in 1967 in memory of Dr. John A. Pylypiuk and in recognition of Canada's Centennial Year. To be awarded to the student who has completed Level II of an Honours program in History with the highest Sessional Average and who in that session achieves a grade of at least A- in HISTORY 2T03 and 2T13. Value: $700 (30039)
THE RAND MEMORIAL PRIZE OF CLASS '98
Established by the Class of 1898 in Arts, on the occasion of the 25th anniversary of graduation, 1923, in memory of Chancellor Theodore Harding Rand, to encourage original literary work. To be awarded to the student who has completed Level I and an additional 60 - 75 units and who, in the judgment of the Department of English and Cultural Studies, has made the most notable original contribution to student publications.
Value: $250 (40045)

THE LLOYD REEDS PRIZES
Established in 1983 in recognition of Dr. Lloyd G. Reeds for his outstanding contributions to the Department of Geography during 35 years of service. Four prizes to be awarded: (a) one to the student who attains the highest Cumulative Average in an Honours B.A. program in Geography; (b) one to the student who attains the highest Cumulative Average in an Honours B.Sc. program in Earth and Environmental Sciences; (c) one to the student who attains the highest Cumulative Average in a three-level B.A. program in Geography or B.Sc. program in Geoscience with a concentration in Geo; and (d) one to the student who, in the judgment of the School of Geography and Earth Sciences, has demonstrated outstanding achievement in GEO 4R06.
Value: $100 each (50033)

THE SHARON REEVES SCHOLARSHIP
Established in 1987 by Kevin W. Reeves (Class of '90) in memory of his wife, Sharon (Class of '79). To be awarded to a student entering Level III or IV of an Honours program in Music (Education) and who, in the judgment of the School of the Arts, has attained notable standing.
Value: $425 (30135)

THE RELIGIOUS STUDIES PRIZES
Established in 1982. Two prizes to be awarded to students who attain the highest Cumulative Average in a three- or four-level program in Religious Studies: (a) one to a student who has completed the program on a full-time basis, and (b) one to a student who has completed the program primarily on a part-time basis.
Value: $100 each (50045)

THE RETIRED TEACHERS OF ONTARIO HAMILTON/HALDIMAND DISTRICT PRIZE IN GERONTOLY
Established in 1987 by the Superannuated Teachers of Ontario, District 13. To be awarded to the student who attains the highest standing in GERONTOL 1A03.
Value: $200 (40047)

THE ELLA JULIA REYNOLDS SCHOLARSHIPS
Established in 1984 by bequest of Ella Julia Reynolds of Hamilton. Two scholarships to be awarded on the basis of scholarship and character to students who have completed Level I and an additional 30 - 75 units of the Honours English or the Honours English and History programs with a Sessional Average of at least 85.5. The recipients must not be holders of another scholarship.
Value: $1,000 each (30044)

THE GLADYS RICHARDS SCHOLARSHIP
Established in 2002 by bequest of Gladys Richards. Two scholarships to be awarded to students who have completed at least Level II of a single Honours program in English or a Combined Honours English and History program who, in the judgment of the Departments, have demonstrated outstanding academic achievement. Students may not hold another scholarship of equal or greater value.
Value: $2,000 each (30283)

THE JACK RICHARDSON MEMORIAL SCHOLARSHIP
Established in 2002 in memory of Jack Richardson by family, friends and colleagues. To be awarded to a part-time student who has completed at least Level II in an Honours Sociology program and who attains the highest Cumulative Average at the most recent review.
Value: $400 (60013)

THE HERBERT A. RICKER SCHOLARSHIPS
Established in 1982 by bequest of Mrs. Edna Elizabeth Ross Reeves of Hamilton in memory of her husband, Herbert A. Ricker. Four scholarships to be awarded on the basis of scholarship (Sessional Average of at least 95) and character to: (a) two to students who have completed Engineering I, or Level I and an additional 35 - 90 units of a program in Engineering, and (b) two to students who have completed Science I or Level I and an additional 30 - 75 units of a program in Science.
Value: $2,000 each (30065)

THE ROSART PROPERTIES INC. SCHOLARSHIP
Established in 1988 by John D. and Dominic J. Rosart of Burlington. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours program in Geography and who, in the judgment of the School of Geography and Earth Sciences, has attained high academic standing.
Value: $325 (30129)

THE ABRAHAM ROSENBERG MEMORIAL PRIZE
Established in 1986 by bequest of Abraham I. Rosenberg (Class of '34) of Hamilton and Kitchener. To be awarded to the graduating student who attains the highest Cumulative Average in the Honours Philosophy program.
Value: $225 (50085)

THE MORRIS AND SARAH ROSENHEAD MEMORIAL PRIZE
Established in 1986 by bequest of Sarah Rosenhead of Hamilton. To be awarded to the student who attains the highest standing in ENGLISH 1A03 and 1A04.
Value: $125 (40033)

THE ROTARY CLUB OF HAMILTON SCHOLARSHIP
Established in 1989.
Value: $575 (30168)

THE ELLEN BOUCHARD RYAN SCHOLARSHIP *
Established in 2000 by the McMaster Centre for Gerontological Studies, and supported by family, in recognition of Dr. Elilen Bouchard Ryan's outstanding contribution to the field of aging. To be awarded to a student who, in the judgment of the Department of Health, Aging and Society, has demonstrated high academic achievement and leadership in ages-related community activities.
Value: $400 (40092)

Students who wish to be considered for this award are encouraged to submit a resume to the Chair of the Department of Health, Aging and Society by April 15th.

THE E.T. SALMON SCHOLARSHIP
Established in 1961 by Mrs. Edward Togo Salmon in memory of her husband, world-renowned Roman historian and member of the Faculty for 43 years. To be awarded to the student who has completed Level I and an additional 60 - 75 units of any Honours Classics or Honours History program, including at least 12 units of Ancient History and Archaeology, and who, in the judgment of a committee of the two Departments, shows outstanding achievement and promise. The purpose of the scholarship is to enable the winner to travel and study abroad during the vacation before the final Winter Session, and/or to fund the final year of study at McMaster; candidates should submit to the committee a statement of their aims and plans for study.
Value: $2,000 (30204)

Travel Scholarship applications are due February 15th.

THE NOEL SANDUSKY MEMORIAL PRIZE *
Established in 1994 by family and friends in memory of Noel Sandusky. To be awarded to a student who has completed Level I and an additional 30 - 75 units of a program in History who, in the judgment of the Department of History, attains notable standing in an Honours program in History.
Value: $175 for books (30045)

THE NOEL SANDUSKY MEMORIAL PRIZE *
Established in 1994 by family and friends in memory of Noel Sandusky. To be awarded to a student who has completed Level I and an additional 30 - 75 units of a program in History who, in the judgment of the Department of History, attains notable standing in at least nine units of History courses.
Value: $150 for books (40075)

THE HILDA SAVAGE MEMORIAL SCHOLARSHIP
Established in 1960 by bequest of Bertha Savage.
Value: $500 (30166)

THE LARRY SAYERS PRIZE IN EAST ASIAN HISTORY *
Established in 1988 in memory of Larry J. Sayers (Class of '62) by his friends. To be awarded to the student who, in the judgment of the Department of History, has demonstrated outstanding achievement in at least six units of courses work in East Asian History.
Value: $275 (40030)

THE LARRY SAYERS PRIZE IN EAST ASIAN HISTORY *
Established in 1988 in memory of Larry J. Sayers (Class of '62) by his friends. To be awarded to the student who, in the judgment of the Department of History, has demonstrated outstanding achievement in at least six units of courses work in East Asian History.
Value: $275 (40030)

THE DR. SINA SAGZAR MEMORIAL SCHOLARSHIP
Established in 1999 in memory of Dr. Sina Sagzar, Hon. B.Sc. (Class of '93), a young, exceptionally gifted and caring medical doctor who tragically passed away on October 26, 1993. To be awarded to a student enrolled in an Honours Bachelor of Science program who, in the judgment of the Faculty of Science, has demonstrated outstanding academic performance.
Value: $1,000 (30263)
THE FEDOR SCHNEIDER SCHOLARSHIP IN ITALIAN
Established in 2004 by bequest of Mary Anna Schneider. To be awarded to a student entering Level III of an Honours Italian or Honours Linguistics program with a concentration in Italian and who, in the judgment of the Department of Linguistics and Languages, has achieved notable academic standing. Open to non-native speakers of Italian only.
Value: $750 (30310)

THE SCHOOL OF THE ARTS SCHOLARSHIP IN MUSIC
Established in 1993 by the Department of Music which later became part of the School of the Arts. To be awarded to a student who, in the judgment of the School of the Arts, has demonstrated academic excellence in Music.
Value: $950 (30216)

THE SCIENCE ALUMNI SCHOLARSHIPS
Established in 2001 by the Faculty of Science through the generosity of its alumni and friends. A variable number of scholarships to be awarded to students entering a Level III program in Science who, in the judgment of the Faculty of Science, have demonstrated outstanding academic achievement and leadership.
Value: $500 each (30278)

THE SHEILA SCOTT SCHOLARSHIP FOR BRANDON HALL
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30202)

THE SHEILA SCOTT SCHOLARSHIP IN ENGLISH
Established in 1983 by graduates of McMaster University and friends in honour of Sheila Scott, Dean of Women from 1965 to 1982, in recognition of her outstanding contribution to the University community during 25 years of service. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours English program, and who attains the highest Sessional Average.
Value: $475 (30136)

THE SHEILA SCOTT SCHOLARSHIP FOR WALLINGFORD HALL
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30158)

THE LARRY SEFTON SCHOLARSHIPS *
Established in 1985 by the Hamilton Steelworkers Area Council in memory of Larry Sefton, area supervisor (1946-53) and director of District 6 (1953-67) of the United Steelworkers of America, to recognize his commitment to education, to working people, to unions and to the City of Hamilton. Three scholarships to be awarded to students in the Labour Studies program who, in the judgment of the Committee of Instruction for Labour Studies, have achieved notable standing in any level.
Value: $500 each (40097)

THE GRACE SENRA-FONTES MEMORIAL PRIZE *
Established in 1989 by the graduating class (Class of '88) in association with the McMaster University Nursing Society and the McMaster Nursing Alumni Executive in memory of Grace Senra-Fontes (Class of '88) of Toronto. To be awarded to a student in Level III or IV of the Nursing program and who, in the judgment of the School of Nursing, best demonstrates excellence in scholarship and leadership, and has served as a valuable role model for those qualities deemed important to success in a nursing career. Preference will be given to students enrolled in Level IV of the Nursing Program.
Value: $250 (40103)

THE MARGARET A. SERVICE BOOK PRIZE
Established in 1990 by friends, colleagues and former students in memory of Margaret A. Service. To be awarded to the student who upon completion of Level I attains the highest average in BIOLOGY 1A03 and 1A04.
Value: $120 for books (40059)

THE ALBERT SHALOM TRAVEL SCHOLARSHIP
Established in 1994 by family, friends and colleagues in memory of Albert Shalom, Professor of Philosophy at McMaster University from 1966 to 1991. To be awarded to a student who is enrolled in a program in Philosophy, and has, in the judgment of the Department of Philosophy, attained notable standing. Preference will be given to a student travelling and studying abroad during the summer before the final Fall/Winter session, but the scholarship could also be used to fund the final year of study at McMaster.
Value: $725 (30222)

Travel Scholarship applications are due February 15th.
THE SONS OF ITALY OF ONTARIO SCHOLARSHIP
Established in 1951 by the Order Sons of Italy of Ontario. To be awarded to a student who has completed at least 30 units beyond Level I in a program in the Department of Linguistics and Languages and who, in the judgment of the department, has attained notable standing in at least six units of Italian courses above Level I.
Value: $500 (30141)

THE SOUTH ONTARIO ECONOMIC DEVELOPMENT COUNCIL SCHOLARSHIPS
Established in 1973 by the South Ontario (formerly Niagara) Economic Development Council. Two scholarships to be awarded, normally one in each of the B.A. and B.Sc. programs, to the students who have completed Level I and an additional 60 - 75 units of the Honours Geography program and who elect GEO 4R06 in their graduating session. Awards are based on scholarship and interest in undertaking studies relating to regional development and regional planning in the Niagara Peninsula.
Value: $2,000 each (30142)

THE ROBERT SOWERBY MEMORIAL SCHOLARSHIP
Established in 2002 by family, friends and colleagues, in memory of Dr. R. Sowerby, a professor of Mechanical Engineering. To be awarded to a student enrolled in the Bachelor of Technology program who, in the judgment of the Department of Mechanical Engineering, has demonstrated outstanding academic achievement.
Value: $500 (40108)

THE MARY SPEARS SCHOLARSHIP
Established in 1993 by many friends, colleagues and alumni of McMaster University as a tribute to Marnie Spears (Class of '59), Executive Director, Development and Public Relations from 1986-93 and dedicated alumna who served as President of the McMaster Alumni Council in 1986, in recognition of her outstanding contribution to the University. To be awarded to the student who has completed Level I and at least an additional 30 units of an Honours program with notable academic standing and who, in the judgment of a Selection Committee, has demonstrated leadership in public, community or University alumni relations.
Value: $1,150 (30217)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE SPORT COACHING PRIZE
Established in 2003 by Pauline McCullagh, a former faculty member of the School of Physical Education, Athletics and Recreation. To be awarded to a Level III or IV Kinesiology student who, in the judgment of the Department of Kinesiology, attains notable standing in one of KINESIOL 3M03, 4K03 or 4N03 and has demonstrated excellence in sport coaching.
Value: $500 (40112)

Students who wish to be considered for this award should pick up an application form from the Department of Kinesiology by April 1.

THE S.L. SQUIRE SCHOLARSHIPS
Established in 1938 by bequest of S.L. Squire of Toronto. Four awards to be made to students in any Level I program who attain the highest standing in any two of MATH 1AA3, 1B03, 1H03, 1N03, and in other tests provided for this scholarship by the Department of Mathematics and Statistics.
Value: $425 each (30132)

THE STANTEC CONSULTING LTD. ENGINEERING SCHOLARSHIP
Established in 2005 by Stantec Consulting Ltd. (Hamilton office). To be awarded to a student who has completed Level I with the highest Sessional Average and who is entering a Level II program in Civil Engineering.
Value: $2,500 (30315)

THE CLARENCE L. STARR PRIZE
Established in 1946 in memory of Dr. C.L. Starr, M.D., LL.D., F.A.S.S., Professor of Surgery at the University of Toronto, and an honorary alumnus of McMaster University (LL.D. 1922). To be awarded to the student who has completed Nursing I and who attains the highest Sessional Average.
Value: $150 (30025)

THE ANNE STEIN MEMORIAL PRIZE *
Established in 1991. To be awarded to the part-time student who successfully completes SOC WORK 3D06 and attains the highest grade in SOC WORK 3D06 in the same session.
Value: $125 (60001)

THE ANNE STEIN MEMORIAL PRIZE
Established in 1971 by friends and colleagues of Anne Stein. To be awarded to the student who successfully completes SOC WORK 3D06 and attains the highest grade in SOC WORK 3D06 in the same session.
Value: $125 (40003)

THE LEONA ALLERSTON RYAN AND GORDON HENRY STEVENS MEMORIAL SCHOLARSHIP
Established in 1995 by Elaine Keillor in memory of Leona and Gordon Stevens. To be awarded to a student who has completed Level I and an additional 30 - 75 units of an Honours program in Music or Art who, in the judgment of the School of the Arts, has demonstrated outstanding achievement.
Value: $525 (30229)

THE MABEL STOAKLEY SCHOLARSHIP
Established in 1956 by the Young Women's Canadian Club of Toronto (now the Career Women's Canadian Club of Toronto). To be awarded to a woman student who has completed Level I and an additional 30 - 45 units of any program and who gives evidence of outstanding academic achievement and leadership.
Value: $425 for books (30103)

Students should submit an application to the Office of Student Financial Aid & Scholarships by April 15th.

THE STOBO SCHOLARSHIP
Established in 1957 by bequest of William Q. Stobo.
Value: $325 (30170)

THE MARIE L. STOCK SCHOLARSHIP
Established in 1987 by the French Section of the Department of Romance Languages in honour of Marie L. Stock, Professor Emeritus of French, and Chair of the Department of Romance Languages from 1962 to 1985. To be awarded to the student who has completed Level I and an additional 50 - 75 units of an Honours program in French and who, in the judgment of the Department of French, has achieved notable academic standing.
Value: $450 (30104)

THE MARK JOHN STOJCIC SCHOLARSHIPS
Established in 1997 by bequest of Mark John Stojcic. Two scholarships to be awarded to students who have completed Level III of a Materials Science and Engineering program who, in the judgment of the Department of Materials Science and Engineering, demonstrate outstanding academic achievement.
Value: $1,800 each (30242)

THE SWISS MINISTER TO CANADA BOOK PRIZES
Established in 1950. To be awarded from time to time to in-course students for proficiency in French, German, or Italian.
Value: Book (40051)

THE JUANITA LEBARRE SYMINGTON SCHOLARSHIP
Established in 1981 by The Women's Art Association of Hamilton in memory of Juanita LeBarre Symington. To be awarded to the student entering the graduating session of the Honours Art program with the highest Sessional Average. The recipient must be from the Hamilton-Wentworth Region.
Value: $750 (30092)

THE DR. ANDREW SZENDROVITS MEMORIAL SCHOLARSHIP
Established in 1999 by family, friends and colleagues in memory of Dr. Andrew Szendrovlts, a former professor of Production and Management Science since 1962 and Dean of the Faculty of Business from 1979 to 1984 at McMaster University. To be awarded to the student enrolled in a Commerce program who achieves the highest average in the operations management science courses (COMMERCE 3QC3 and 3QAO3) taken in the same session.
Value: $450 (30265)

THE KENNETH W. TAYLOR BOOK PRIZE *
Established in 1976 by his children in memory of Dr. Kenneth W. Taylor (Class of '21), LL.D. (Class of '50). To be awarded to the student who, in the judgment of the Department of Economics, has demonstrated outstanding academic achievement in courses within the areas of monetary economics and financial institutions, and of public finance.
Value: $100 for books (40029)

THE THEATRE & FILM STUDIES BOOK PRIZE
Established in 1974 by Professor Ronald W. Vince. To be awarded to the student who attains the highest standing in THTR&FLM 1A03 and 1B03
Value: Book (40014)

THE HUGH R. THOMPSON MEMORIAL PRIZE
Established in 1960 in memory of Dr. Hugh R. Thompson. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in the School of Geography and Earth Sciences with the highest Sessional Average.
Value: $250 (30069)
THE DR. R.A. THOMPSON PRIZE IN MATHEMATICS
Established in 1954 by bequest of Dr. William Bethune, in memory of R.A. Thompson, B.A., LL.D., Principal of Central Collegiate Institute, Hamilton, from 1897-1919, in recognition of his contribution to education in Hamilton. To be awarded to the student who has completed Level I and an additional 60 - 75 units of an Honours program in Mathematics and/or Statistics, who attains a high Sessional Average.
Value: $300 (30040)

THE MICHAEL THOMSON MEMORIAL BOOK PRIZES
Established in 1975 by the members of the Departments of German and Russian in memory of Michael Thomson, Supervisor of the McMaster University language laboratories from 1961 to 1975. Two prizes to be awarded: (a) one to the student who attains the highest standing in GERMAN 1206 and (b) one to the student who attains the highest standing in RUSSIAN 3AA3.
Value: $50 each for books (40055)

THE TINNERMAN PALNUT ENGINEERED PRODUCTS SCHOLARSHIP IN MECHANICAL ENGINEERING
Established in 2001 by Tinnerman Palnut Engineered Products. To be awarded to a student entering Level II of a Mechanical Engineering Program who, in the judgment of the Department of Mechanical Engineering, has achieved notable academic standing and demonstrated qualities of leadership at McMaster or in the community.
Value: $2,800 (30279)

THE GRAHAM RONALD TOOP SCHOLARSHIP
Established in 1989 in memory of Graham Toop (Class of ’86) by family and friends. To be awarded to the student entering Level IV of an Honours Philosophy program and who, in the judgment of the Department of Philosophy, has demonstrated leadership and influence in scholarly activities related to the field of philosophy.
Value: $500 (30156)

THE CORELENE HELEN TOSTEVIN SCHOLARSHIPS
Established in 1998 by bequest of Corelene Tostevin. Five awards to be granted to students who are registered in a Post-RN degree program and who, in the judgment of the School of Nursing, have demonstrated notable academic achievement.
Value: $250 each (40063)

THE JOHN TOTH MEMORIAL PRIZE
Established in 1965 in memory of John Toth by his friends. To be awarded to the student who attains the highest average in any six units of Level III or IV Latin courses.
Value: $50 (40028)

THE JOHN H. TRUeman PRIZE
Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to the graduating student who demonstrates the most outstanding ability in medieval history.
Value: $250 (50067)

THE JOHN H. TRUeman SCHOLARSHIP
Established in 1989 as a tribute to Professor John H. Trueman by his many friends, colleagues and students on the occasion of his retirement from McMaster University. To be awarded to the student who has completed Level I and who, in the judgment of the Department of History, has achieved notable academic standing in medieval history.
Value: $250 (40104)

THE THOMAS TRUMAN MEMORIAL PRIZE
Established in 1992 by friends and colleagues in memory of Professor Thomas Truman, a member of the Department of Political Science from 1966 to 1990. To be awarded to the student entering the final level of an Honours program in Political Science who, in the judgment of the Department of Political Science, has achieved notable academic standing in at least nine units of Comparative Politics courses. Value: $75 (40068)

THE UNIVERSITY ACHIEVEMENT AWARDS
Established in 2006. Awarded for overall academic excellence to part-time students in undergraduate programs. Each year, quotas are established in proportion to the number of part-time undergraduate students who obtain a Cumulative Average of 8.0 or greater and who are named to the Dean's Honour List.
Value: $900 (40118)

THE UNIVERSITY PRIZES FOR SPECIAL ACHIEVEMENT
Established in 1973. Two prizes to be awarded in each Faculty and other academic units to students who exhibit exceptional skill and originality in a creative project (such as an essay, poem, sculpture, mathematical or scientific problem, engineering design) or a related series of such projects.
Value: $150 each (40052)

THE UNIVERSITY SENATE SCHOLARSHIPS
Made available from by authorization of the Board of Governors of the University.
Value: $300 each (30173)

THE UNIVERSITY SCHOLARSHIPS
Established in 1978. Twenty scholarships to be awarded to part-time students who have attained the highest Cumulative Average at the most recent review.
Value: $250 each. (60003)

THE VALLEY CITY MANUFACTURING CO. LTD. SCHOLARSHIPS
Established in 1991 by the Valley City Manufacturing Co. Ltd. of Dundas, Ontario. Two scholarships to be awarded to the students enrolled in an Honours B.Sc. program: one to the student entering Level II and one to the student entering Level III who attain the highest Sessional Average. Recipients may not hold another scholarship of equal or greater value.
Value: $1,575 each (30205)

THE VAREY SCHOLARSHIP
Established in 1978 by J. C. Varey, Dundas, in memory of Albert E. Varey. To be awarded to a student in an Honours Program in Classics who, in the judgment of the Department of Classics has achieved notable academic standing.
Value: $275 (30151)

THE JIM WADDINGTON PRIZE IN PHYSICS AND ASTRONOMY
Established in 2004 by friends, colleagues and students in recognition of Jim Waddington and his career, as a teacher and researcher. To be awarded to a student entering Level II of an Honours program in the Department of Physics and Astronomy who has attained the highest grade in PHYSICS 1B3.
Value: $500 (30121)

THE HARRY WAISGLASS BOOK PRIZE
Established in 1988 in honour of Harry Waisglass, the first Director of the Labour Studies Education Program at McMaster. To be awarded to a student graduating from a program in Labour Studies who, in the judgment of the Committee of Instruction for Labour Studies, has demonstrated outstanding achievement.
Value: $50 for books (50024)

THE MELINDA WAPSHAW ACHIEVEMENT AWARD
Established in 1993 by the Labour Studies Student Association and the Labour Studies Program. To be awarded to a student who has completed Level I and an additional 60 - 75 units of an Honours Program in Labour Studies and who, in the judgment of the Committee of Instruction, demonstrates outstanding achievement.
Value: $175 (40074)

THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY
Established in 1990 by the former students, colleagues and friends of Dr. F.W. Waters, Professor from 1935 to 1959. To be awarded to the student entering Level IV of an Honours Program in Philosophy who, in the judgment of the Department of Philosophy, shows the most academic promise.
Value: $750 (30197)

THE F.W. WATERS SCHOLARSHIP IN PHILOSOPHY FOR PART-TIME STUDENTS
Established in 1998 by former students, colleagues and friends of Dr. F. W. Waters, Professor from 1935 to 1959. To be awarded to a part-time student in a Philosophy program who, in the judgment of the Department of Philosophy, has demonstrated outstanding academic achievement. No student will be eligible to receive this award more than once.
Value: $250 (60008)

THE RALPH WEEKES SCHOLARSHIP
Established in 1994 by the Investors Group Financial Services to recognize the accomplishments of Ralph Weekees (Class of ’73). To be awarded to a student enrolled in a program in Economics who, in the judgment of the Department of Economics, has attained notable standing. Preference to be given to a student pursuing studies on a part-time basis.
Value: $800 (40073)

THE WEISZ FAMILY FOUNDATION SCHOLARSHIP
Established in 1982. To be awarded to the student who has completed Level I and an additional 60 - 75 units of the Honours Commerce program and who attains the highest Sessional Average (at least 9.5).
Value: $1,500 (30152)
THE HOWARD P. WHIDDEN SCHOLARSHIP
Established in 1941 by the Honourable Jacob Nicol (Class of '00) of Sherbrooke, Quebec, in honour of Chancellor Howard P. Whidden, with a view to fostering relations of friendship and understanding between French-speaking and English-speaking Canadians. To be awarded to a student who has completed six units of French and who shows ability and promise in the use of the French Language. The recipient will study at a Quebec university during the summer.
Value: $800 (30176)
Travel Scholarship applications are due February 15th.

THE WHIDDEN HALL RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30159)

THE R.M. WILES MEMORIAL BOOK PRIZE *
Established in 1975 in memory of Professor Roy McKeen Wiles by his friends and colleagues. To be awarded to the student who, in the judgment of the Department of English and Cultural Studies, has written the best essay on a topic relating to English literature of the period 1650-1800.
Value: $250 for books (40044)

THE T. RUSSELL WILKINS MEMORIAL SCHOLARSHIPS
Established in 1963 by bequest of Mrs. T. Russell Wilkins (B.A. '18 Brandon, M.A. '32), daughter of former Chancellor Howard P. Whidden, in memory of her husband, Dr. T. Russell Wilkins (Class of '11). Two scholarships to be awarded to students entering the penultimate level of an Honours program in Arts and Science, Health Sciences or Science who have demonstrated outstanding academic achievement. In addition, the students should demonstrate a lively interest in the humanities and in the human and social implications of scientific developments. The purpose of the scholarship is to enable the winners to spend the summer before the final Fall/Winter session in travel and study outside Canada.
Value: $4,600 each (30178)
Travel Scholarship applications are due February 15th.

THE MARJORIE AND CHARLES WILKINSON SCHOLARSHIP
Established in 1991 by the family in honour of Marjorie Wilkinson, author of many books and addresses on religion, and co-founder of the Hamilton Lay School of Theology at McMaster in 1966, and Charles Wilkinson, religion editor and writer for the Hamilton Spectator from 1965-1985. To be awarded to the student who has completed at least 30 units beyond Level I of an Honours program in Religious Studies and who, in the judgment of the Department of Religious Studies, has attained notable academic standing in courses in Christian thought.
Value: $450 (30191)

THE THOMAS E. WILLEY SCHOLARSHIP
Established in memory of Dr. Thomas E. Willey in 1996 by his family, colleagues and friends. To be awarded to an undergraduate student who, in the judgment of the History and the Linguistics and Languages departments, has demonstrated excellence in German studies.
Value: $375 (40082)

THE EMANUEL WILLIAMS SCHOLARSHIP IN PHYSICS
Established in 1948 by Arabel M. Williams of Port Colborne as a memorial to her brother. To be awarded to the student who has completed Level I and an additional 30 - 45 units of an Honours program in Physics with the highest Sessional Average.
Value: $1,200 (30049)

THE DAVID WINCH MEMORIAL SCHOLARSHIP
Established in 2003 in memory of Professor David Winch by his family, friends and colleagues. To be awarded to a part-time student in the Faculty of Social Sciences who has completed at least Level II and who, in the judgment of the Faculty, has demonstrated notable academic achievement.
Value: $425 (60012)

THE WOMEN'S ART ASSOCIATION SCHOLARSHIPS
Established in 1969. Two scholarships to be awarded: (a) one to a student entering Level II and (b) one to a student who has completed Level I and an additional 30 - 45 units of a program in Honours Art or Honours Art History with the highest Sessional Average. The recipients must be from the Hamilton-Wentworth Region.
Value: $750 each (30153)

THE WOODSTOCK HALL RESIDENCE SCHOLARSHIP
Awarded to the student who resides in the residence with the highest Sessional Average (at least 9.5) in an undergraduate program, with the exception of those in their graduating session.
Value: $750 (30160)

THE IVOR WYNNE MEMORIAL PRIZE
Established in 1971 in memory of Ivor Wynne, Dean of Students. To be awarded to a student who has completed Level III of the Kinesiology program and who attained the highest Cumulative Average.
Value: $250 (30075)

THE MARGUERITE Z. YATES SCHOLARSHIP
Established in 1960 by bequest of Mrs. W.H. Yates of Hamilton.
Value: $225 (30167)

THE YATES SCHOLARSHIPS
Value: $900 each (30171)

THE GLADYS A. YOUNG SCHOLARSHIP
Established in 1991 by T.G. Harvey in honour of his wife, Gladys B.Sc., (Class of '37), M.Sc. (Class of '38), one of a group of researchers who commenced radio astronomy research with the National Research Council of Canada. To be awarded to the student who has completed Level I and an additional 30 - 65 units of an Honours program in Mathematics or Physics with the highest Sessional Average. The recipient must not hold another scholarship of equal or greater value.
Value: $1,600 (30206)

THE LILLIAN AND MANUEL ZACK SCHOLARSHIP
Established in 1994 by Lillian and Manuel Zack (Class of '40) of Hamilton. To be awarded to a student who has completed Level I and an additional 70 - 85 units of a program in Nursing and who, in the judgment of the School of Nursing, has demonstrated achievement, initiative, and commitment to gerontological nursing through clinical practice, term papers, research interest, or community activities and who pursues these interests in Level IV.
Value: $1,800 (30101)

ACADEMIC GRANTS FOR FULL-TIME, IN-COURSE STUDENTS

THE MARGARET ELIZABETH BURKE MEMORIAL ACADEMIC GRANT
Established in 2005 by Dr. Dennis Burke in memory of his wife, Margaret. To be awarded to a student who has completed Level I in the B.Sc.N. program and who, in the judgment of the School of Nursing, has attained the highest grade in the required Level I Anatomy/Physiology courses and demonstrates financial need.
Value: $2,900 (85004)

THE WILLIAM F. CAMPBELL ACADEMIC GRANT
Established in 2005 by Margaret Campbell, M.Sc. (Class of '72) and David F. Campbell Taylor in memory of their father William F. Campbell, B.A. (Class of '35) of Ottawa. To be awarded to students entering Level II in the Faculty of Engineering and the Faculty of Science who have completed Level I with high Sessional Averages and demonstrate financial need. Tenable in Levels III and IV provided that the recipients remain registered in their Faculty and maintain a minimum Sessional Average of 9.5. These awards will be divided equally between the Faculty of Engineering and the Faculty of Science.
Value: $6,000 ($2,000 each year) (85010)

THE HATCH ACADEMIC GRANT IN ENGINEERING
Established in 2005 by Hatch to celebrate their 50th anniversary and their success in providing engineering expertise to clients around the world. Two grants to be awarded to students in a program in Civil, Chemical, Materials or Mechanical Engineering who have a high Sessional Average and demonstrate financial need: a) one after the completion of Level I and an additional 33-45 units, and b) one after the completion of Level I and an additional 58-82 units.
Value: $1,000 each (85001)

THE JACK HOWETT ACADEMIC GRANT
Established in 2005 by the Organization of CANDU Industries in honour of Jack Howett, a founding member of OCI. To be awarded to a student who has completed Level I and an additional 74 - 79 units of an Engineering Physics program specializing in the Nuclear Engineering and Energy Systems Stream with a high Sessional Average, and who demonstrates financial need.
Value: $500 (85002)
### UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY

#### THE KNEALE BROTHERS '37 ACADEMIC GRANT
Established in 2006 by brothers Verne and Graham Kneale (Class of '37) in honour of their family's belief in higher education. To be awarded to a student registered in the Faculty of Social Sciences or the Faculty of Humanities who has completed Level I and an additional 30-45 units, attains a high Sessional Average, and who demonstrates financial need. Value: $2,000 (85011)

#### THE THERMA LAZAROWICH ACADEMIC GRANT
Established in 2005 by Michael Lypka, B. Com. (Class of '80) in memory of his grandmother. To be awarded to a student entering Business I in a full-time program of study in the DeGroote School of Business who has a high final admission average and demonstrates financial need. Award is tenable for up to four years provided the recipient maintains a minimum Sessional Average of 9.5. Value: $5,000 (85012)

#### THE TAYLOR LEIBOW ACADEMIC GRANT
Established in 2006 by Taylor Leibow LLP, a Hamilton-based firm established in 1947. To be awarded to a student who has completed Level II or III of the Bachelor of Commerce program, attains a high Sessional Average and demonstrates financial need. Value: $800 (85014)

#### THE ELEANOR MORRIS ACADEMIC GRANT
Established in 2005 by Sandra Morris, B.A. (Class of '82) in memory of her mother, Eleanor Morris. To be awarded to a student in the School of Nursing who has completed Level I with a high Sessional Average and demonstrates financial need. Value: $800 (85006)

#### THE MANSON OLSON ACADEMIC GRANT
Established in 2005 by Margaret Olson (Class of '50) in honour of her father Gordon Manson (Class of '38), her brother John Manson (Class of '56) and her husband Theodore Olson (Class of '51). To be awarded to a student in the Faculty of Science who has attained a high Sessional Average and demonstrates financial need. Value: $800 (85005)

#### THE POLLOLOCK FAMILY ACADEMIC GRANT
Established in 2006 by Dr. Ken Pollock, Dr. Gary Pollock, Dr. Mark Pollock and Dr. Ted Pollock. To be awarded to a student in the Faculty of Engineering who has completed Level I, attained a high Sessional Average and demonstrates financial need. Value: $800 (85005)

### UNDERGRADUATE AWARDS AND ACADEMIC GRANTS BY FACULTY

#### Legend
- **B** In-Course (Full-time) Awards
- **C** Part-time Awards
- **D** Specific Achievement Awards
- **E** Graduand Awards
- **F** Second Degree Awards
- **G** Academic Grants

Please look at the listings in relevant Faculties if you are in a combined program.

<table>
<thead>
<tr>
<th>Faculty/Program/Department</th>
<th>Award Type</th>
<th>Application Required</th>
<th>Award Category</th>
<th>Value</th>
<th>Name of Scholarship</th>
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<tr>
<td>ARTS AND SCIENCE</td>
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<td>B</td>
<td>$1,000</td>
<td>The Arts and Science Program Experiential Learning Travel Scholarship</td>
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<td>J</td>
<td>No</td>
<td>D</td>
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<td>B</td>
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<td>The Charon Burke McCain Memorial Scholarship</td>
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<td>B</td>
<td>$1,500</td>
<td>The Class of 1953 50th Anniversary Scholarship</td>
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<td>J</td>
<td>No</td>
<td>E</td>
<td>$200</td>
<td>The Laura Dodson Prize</td>
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<td>No</td>
<td>B</td>
<td>$1,000</td>
<td>The Federation of Chinese Canadian Professionals Education Foundation Scholarships</td>
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<td></td>
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<td>The Barbara M. Ferrier Scholarship in Arts and Science</td>
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<td>The Herbert M. Jenkins Prize</td>
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<td>The M. Banker Bates Scholarship</td>
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### UNDERGRADUATE AWARDS — AWARDS AND ACADEMIC GRANTS BY FACULTY

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For your convenience McMaster University Undergraduate calendars are also available via the Web at http://www.mcmaster.ca. From our homepage, enter "Undergraduate Studies/Programs" and access "Course Calendar" to view the Calendars.